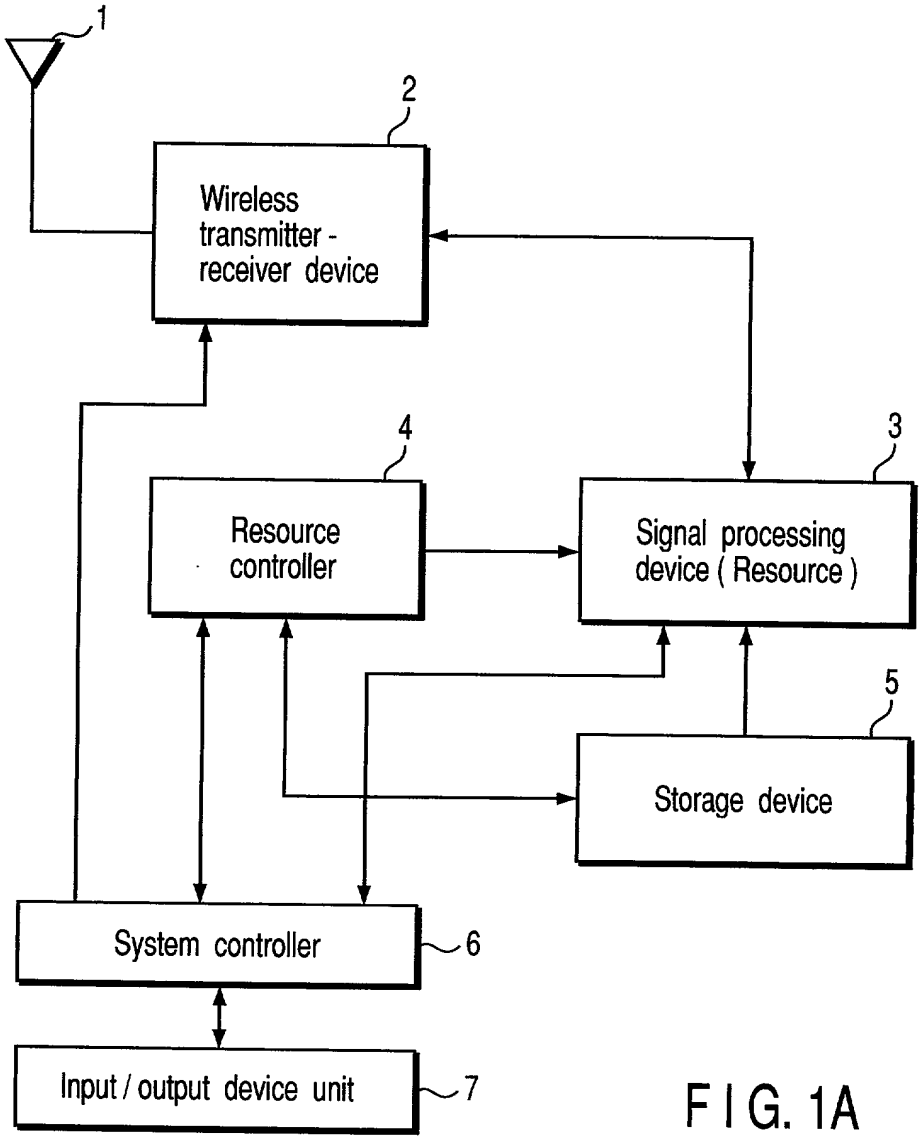
1
2
Wireless transmitter - receiver device
4
Resource controller
3
Signal processing device (Resource)
5
Storage device
System controller
6
Input / output device unit
7

FIG. 1A

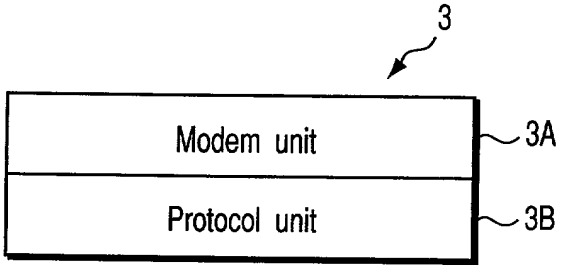
3
Modem unit
3A
Protocol unit
3B

FIG. 1B

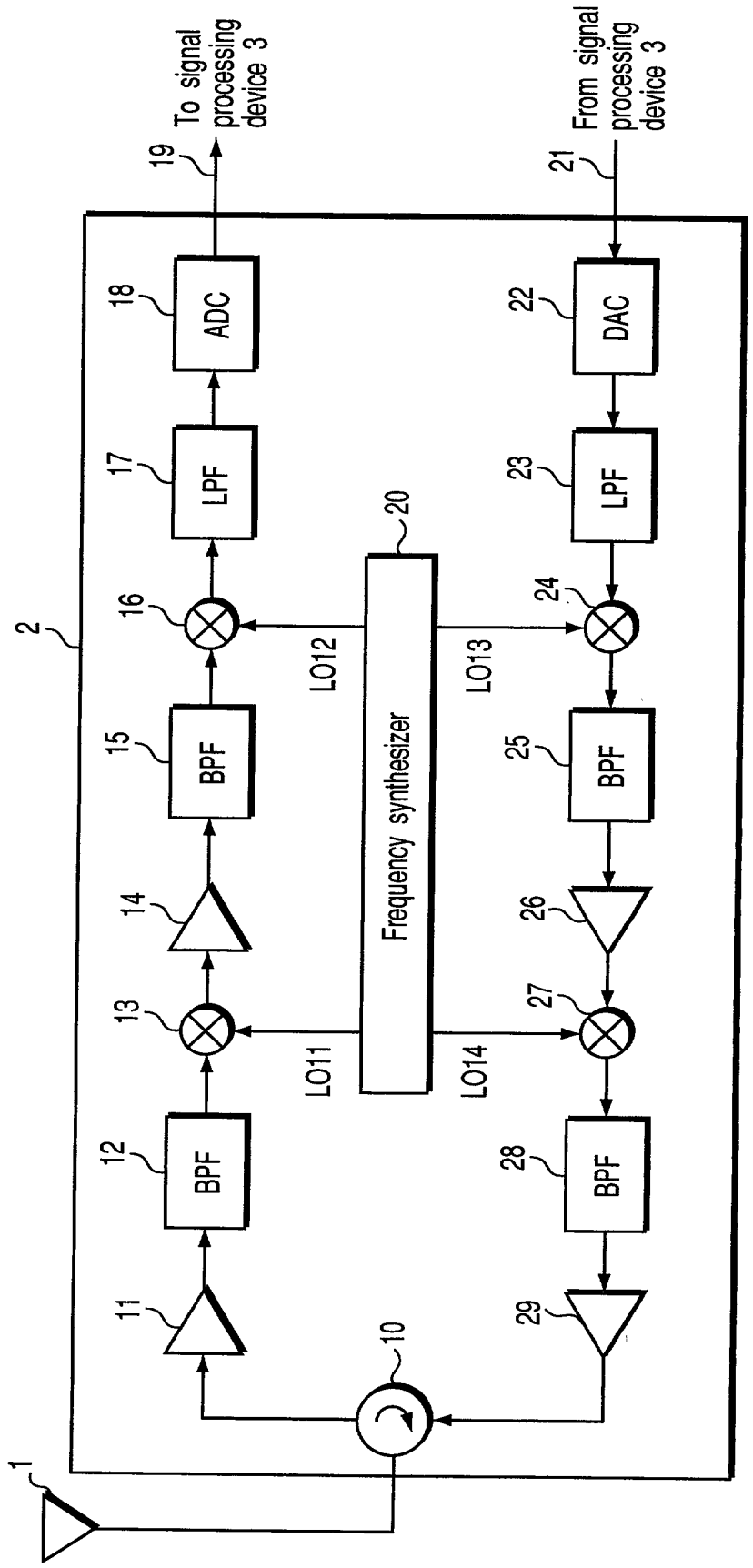
To signal processing device 3
From signal processing device 3
19
21
ADC
DAC
18
22
LPF
LPF
17
23
20
16
24
LO12
LO13
Frequency synthesizer
BPF
BPF
15
25
14
26
13
27
LO11
LO14
BPF
BPF
12
28
11
29
10
2
1

FIG. 2

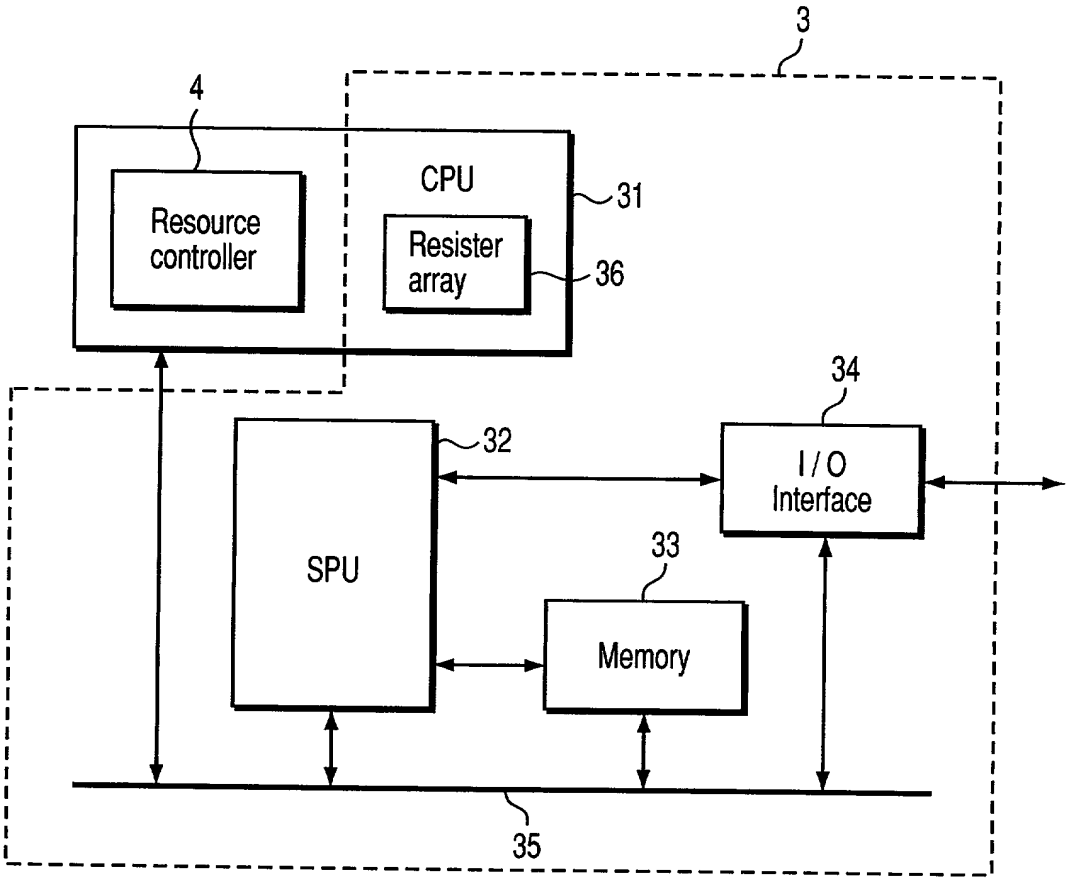
3
4
Resource controller
CPU
31
Resister array
36
34
32
I/O Interface
SPU
33
Memory
35

FIG. 3A

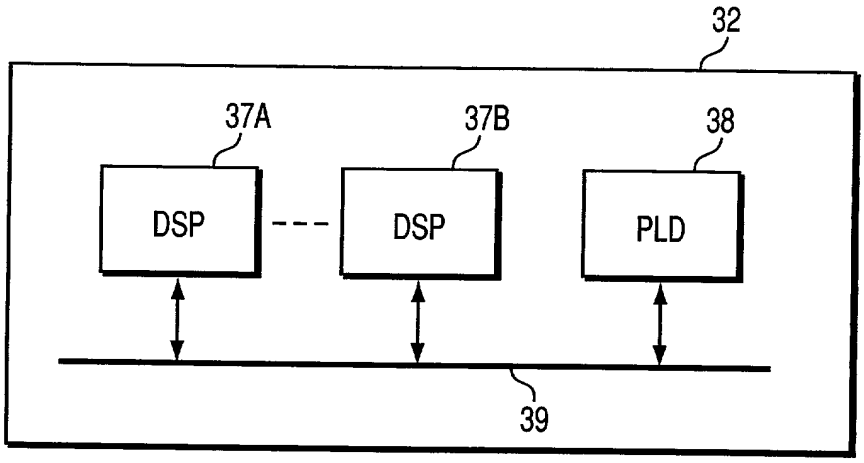
32
37A
37B
38
DSP
DSP
PLD
39

FIG. 3B

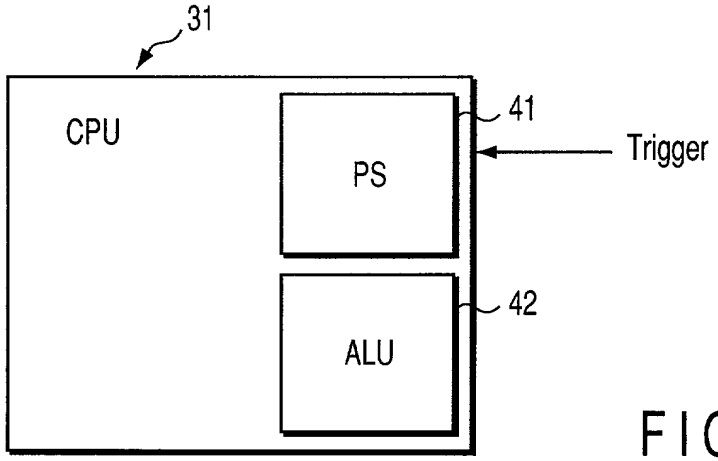

FIG. 4

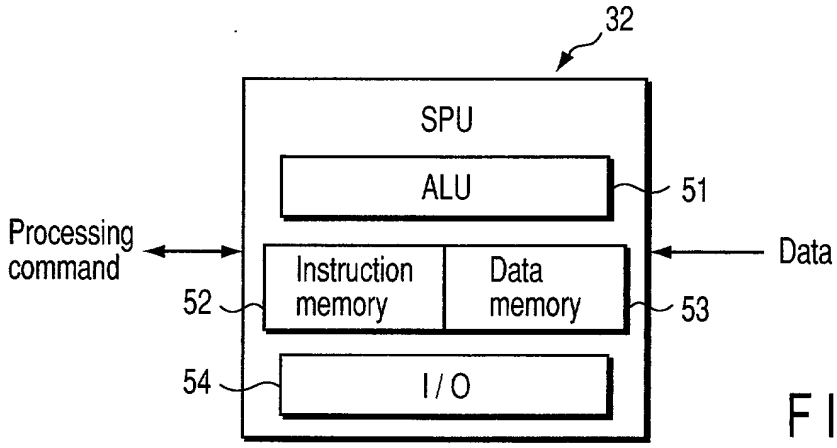

FIG. 5

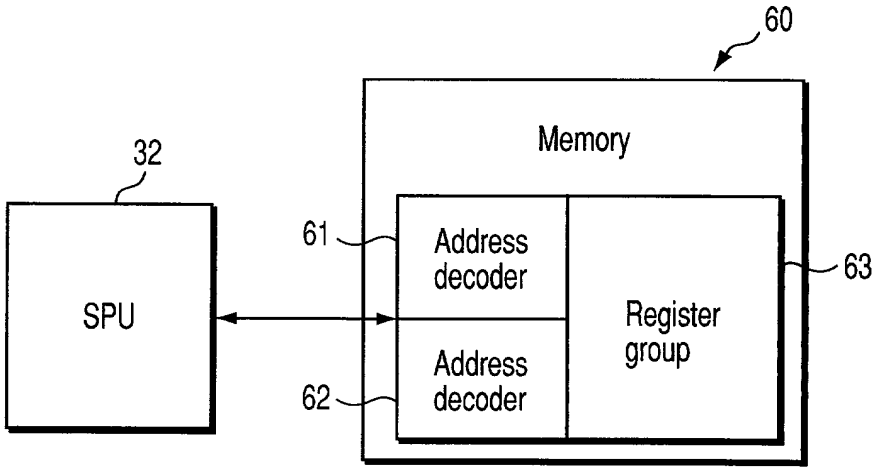

FIG. 6

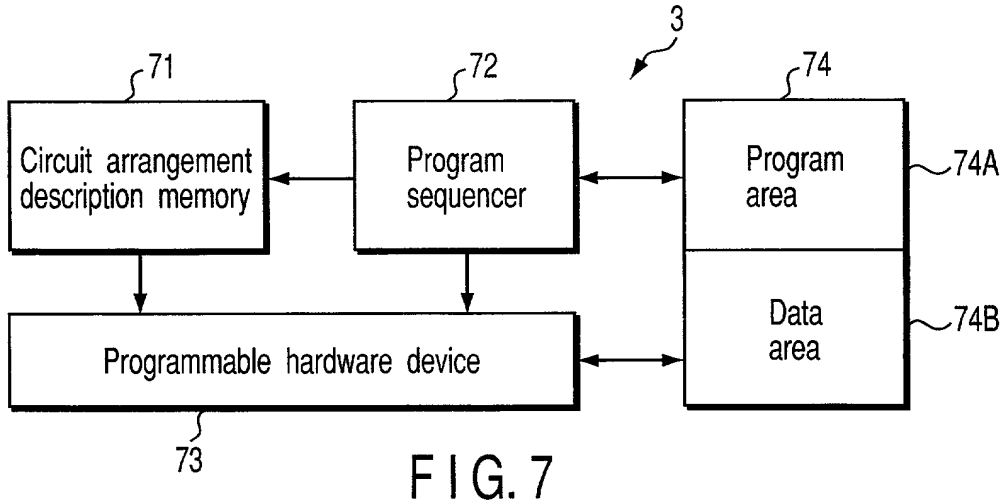

FIG. 7

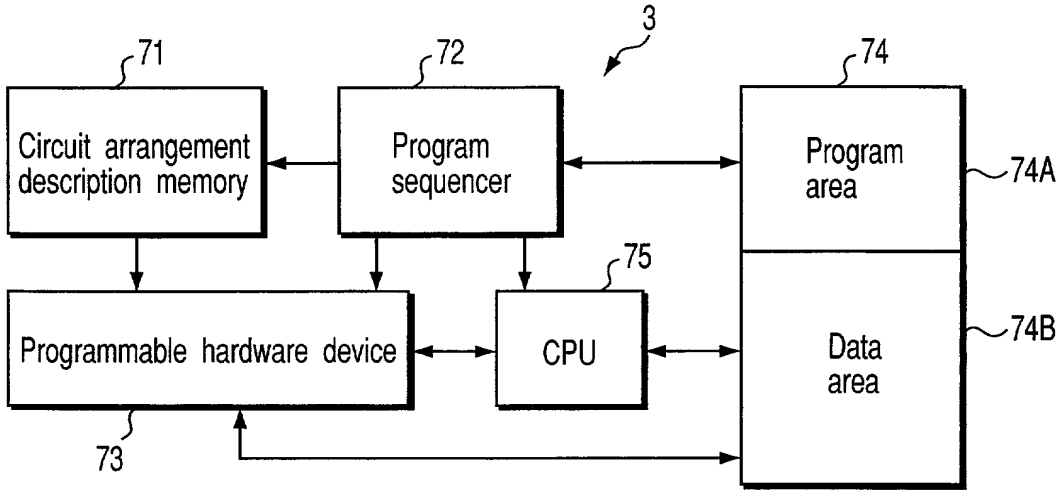

FIG. 8

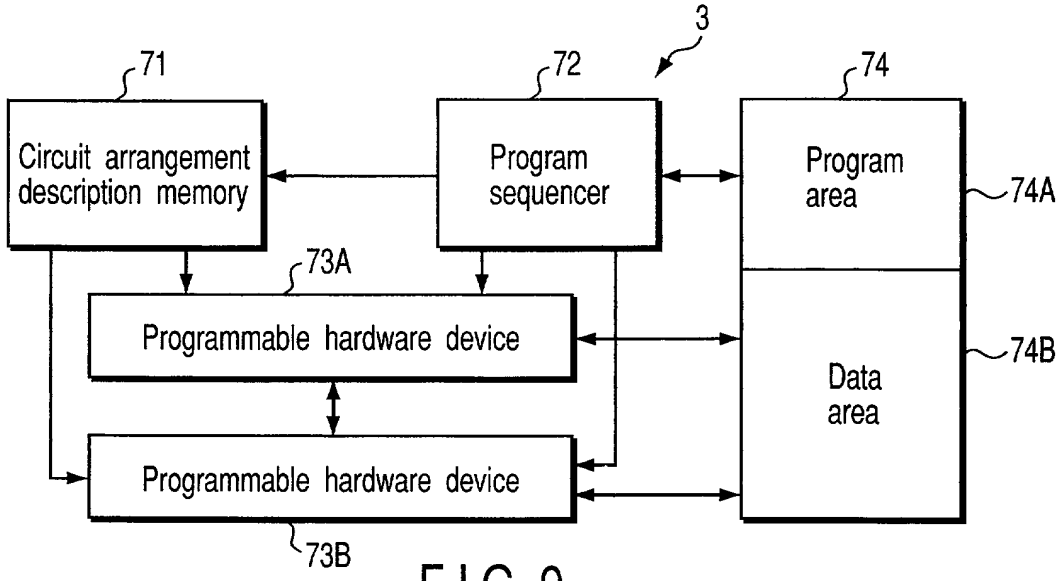

FIG. 9

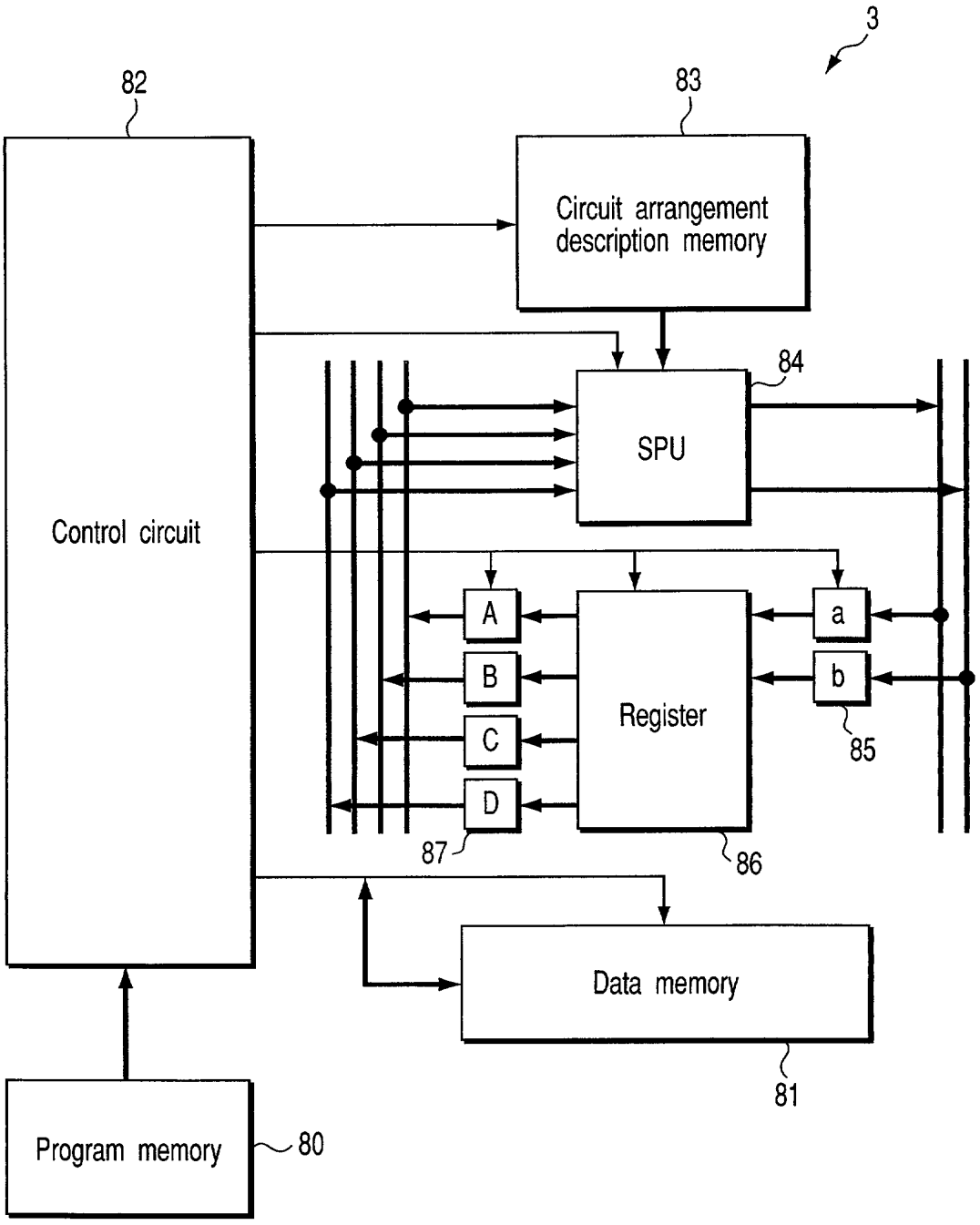
3
82
83
Circuit arrangement description memory
84
SPU
Control circuit
A
B
C
D
Register
a
b
85
87
86
Data memory
81
Program memory
80

FIG. 10

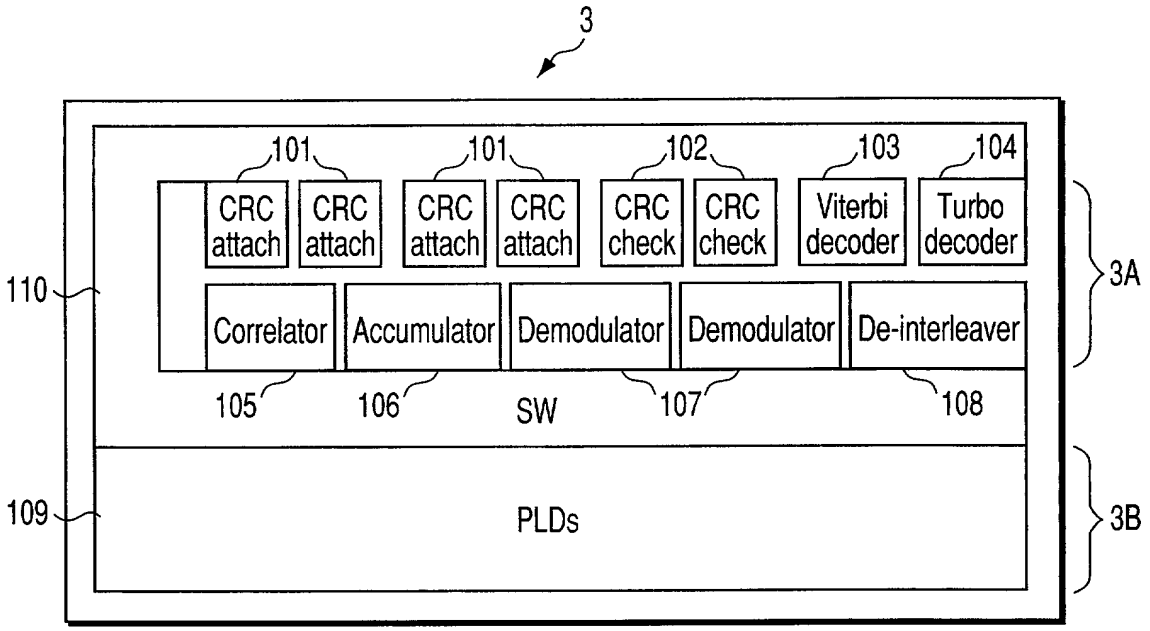
3
101
101
102
103
104
CRC attach
CRC attach
CRC attach
CRC attach
CRC check
CRC check
Viterbi decoder
Turbo decoder
110
Correlator
Accumulator
Demodulator
Demodulator
De-interleaver
3A
105
106
SW
107
108
109
PLDs
3B

FIG. 11

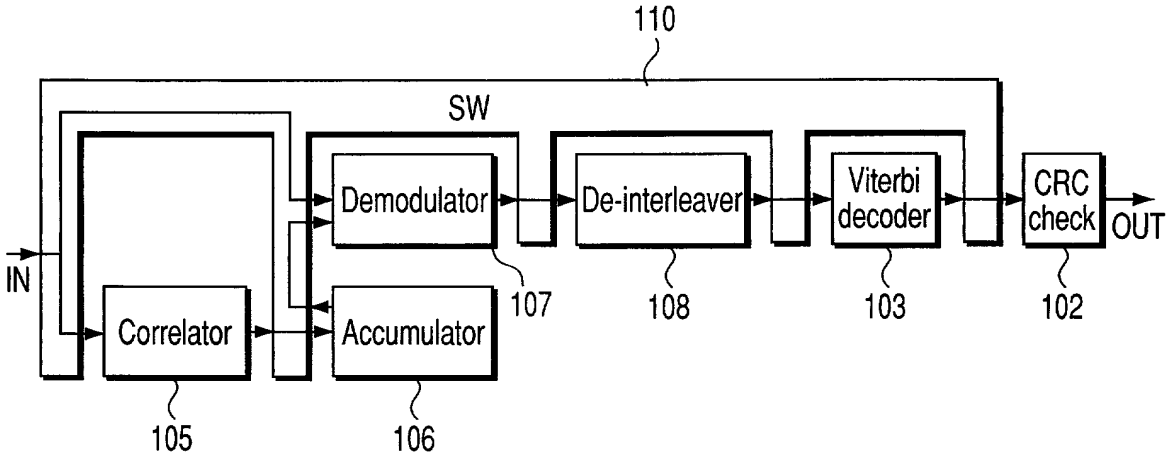
110
SW
IN
Demodulator
De-interleaver
Viterbi decoder
CRC check
OUT
Correlator
Accumulator
107
108
103
102
105
106

FIG. 12

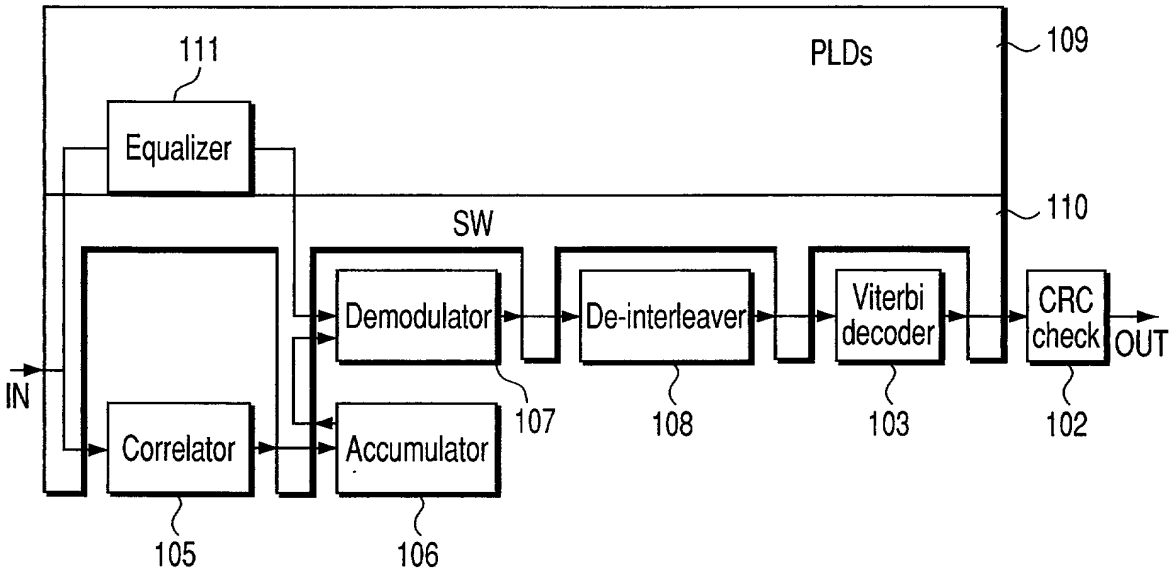
111
PLDs
109
Equalizer
110
SW
Demodulator
De-interleaver
Viterbi decoder
CRC check
OUT
IN
Correlator
Accumulator
107
108
103
102
105
106

FIG. 13

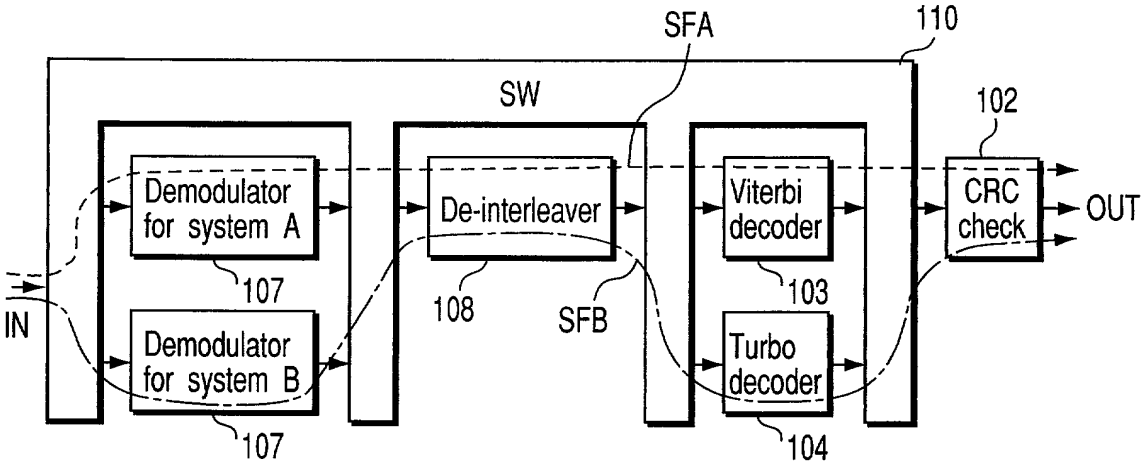
SFA
110
SW
102
Demodulator for system A
De-interleaver
Viterbi decoder
CRC check
OUT
107
108
SFB
103
IN
Demodulator for system B
Turbo decoder
107
104

FIG. 14

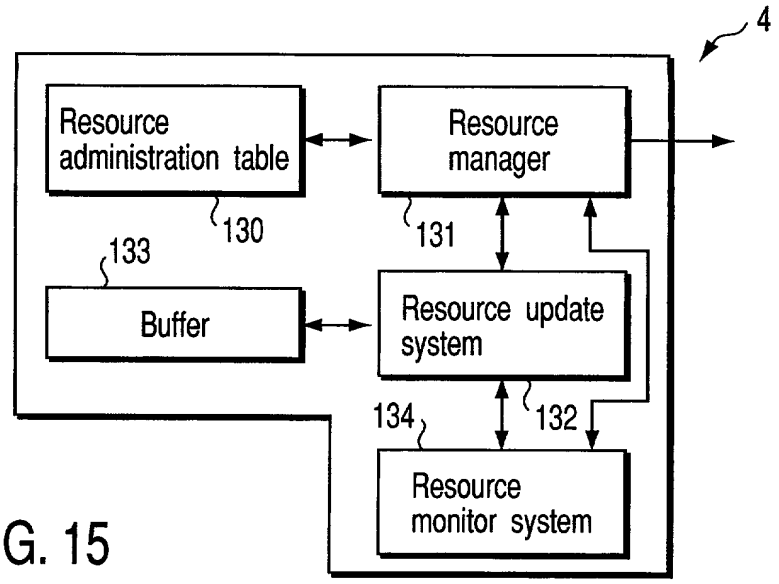

FIG. 15

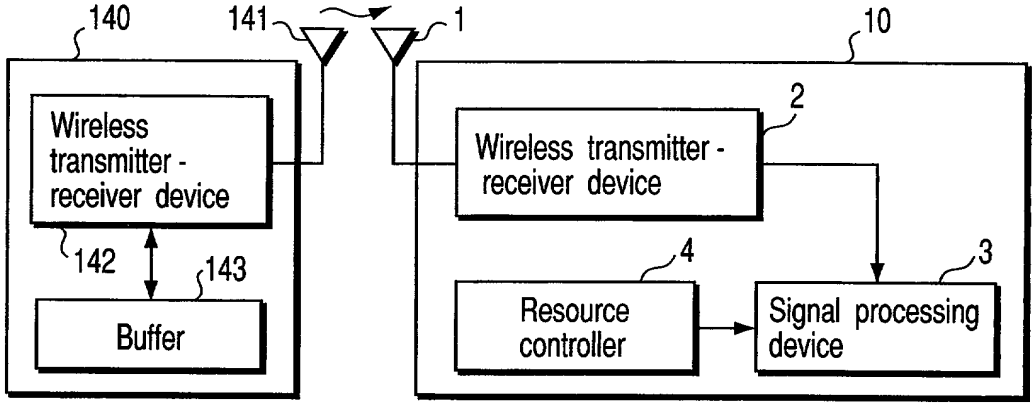

FIG. 16

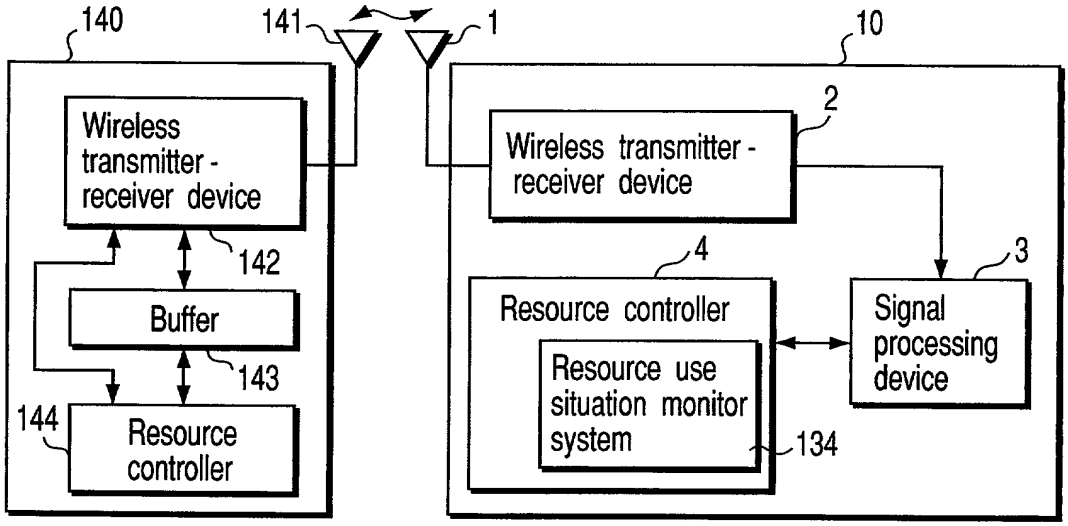

FIG. 17

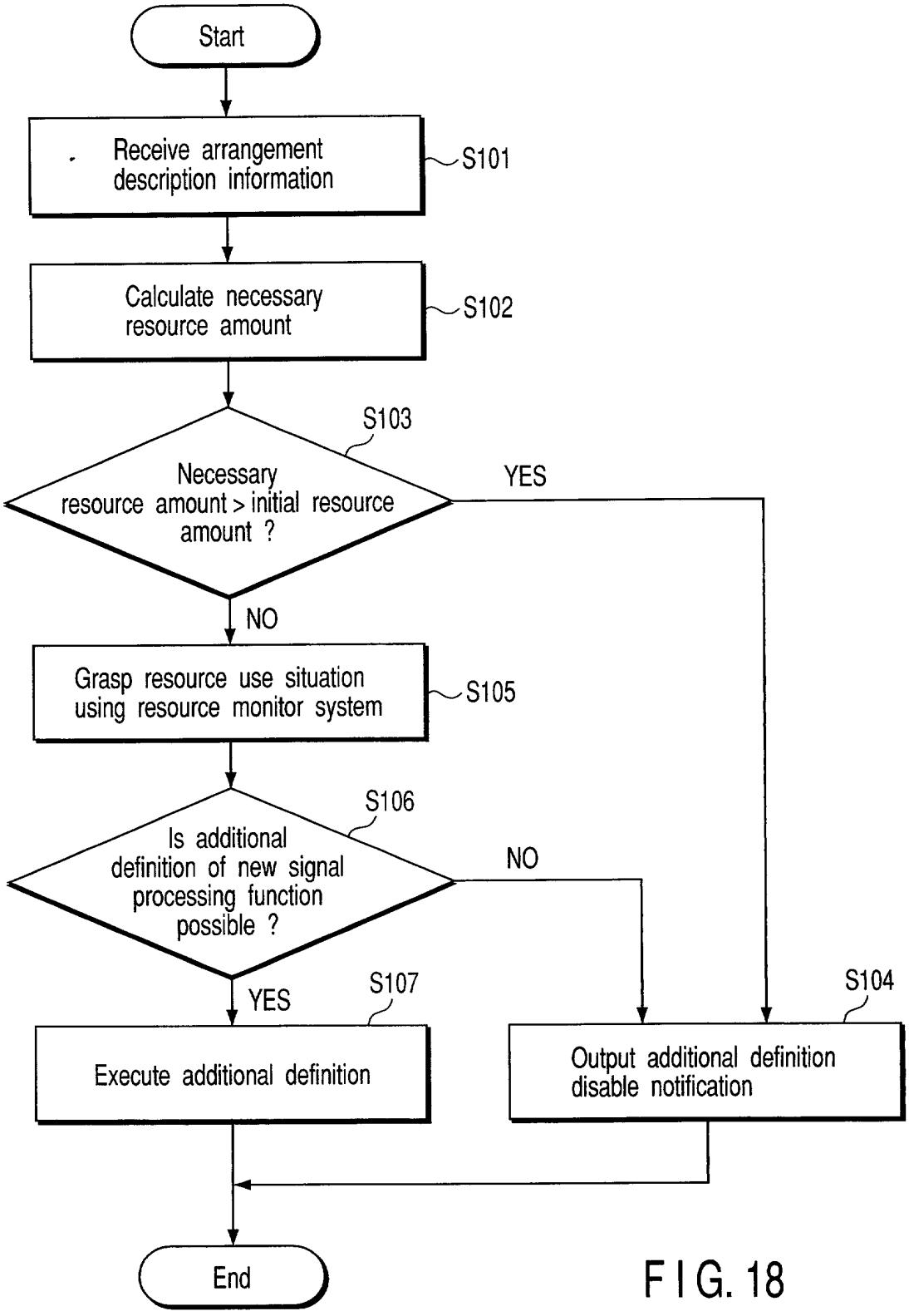
Start
Receive arrangement description information
S101
Calculate necessary resource amount
S102
S103
Necessary resource amount > initial resource amount ?
YES
NO
Grasp resource use situation using resource monitor system
S105
S106
Is additional definition of new signal processing function possible ?
NO
YES
S107
S104
Execute additional definition
Output additional definition disable notification
End

FIG. 18

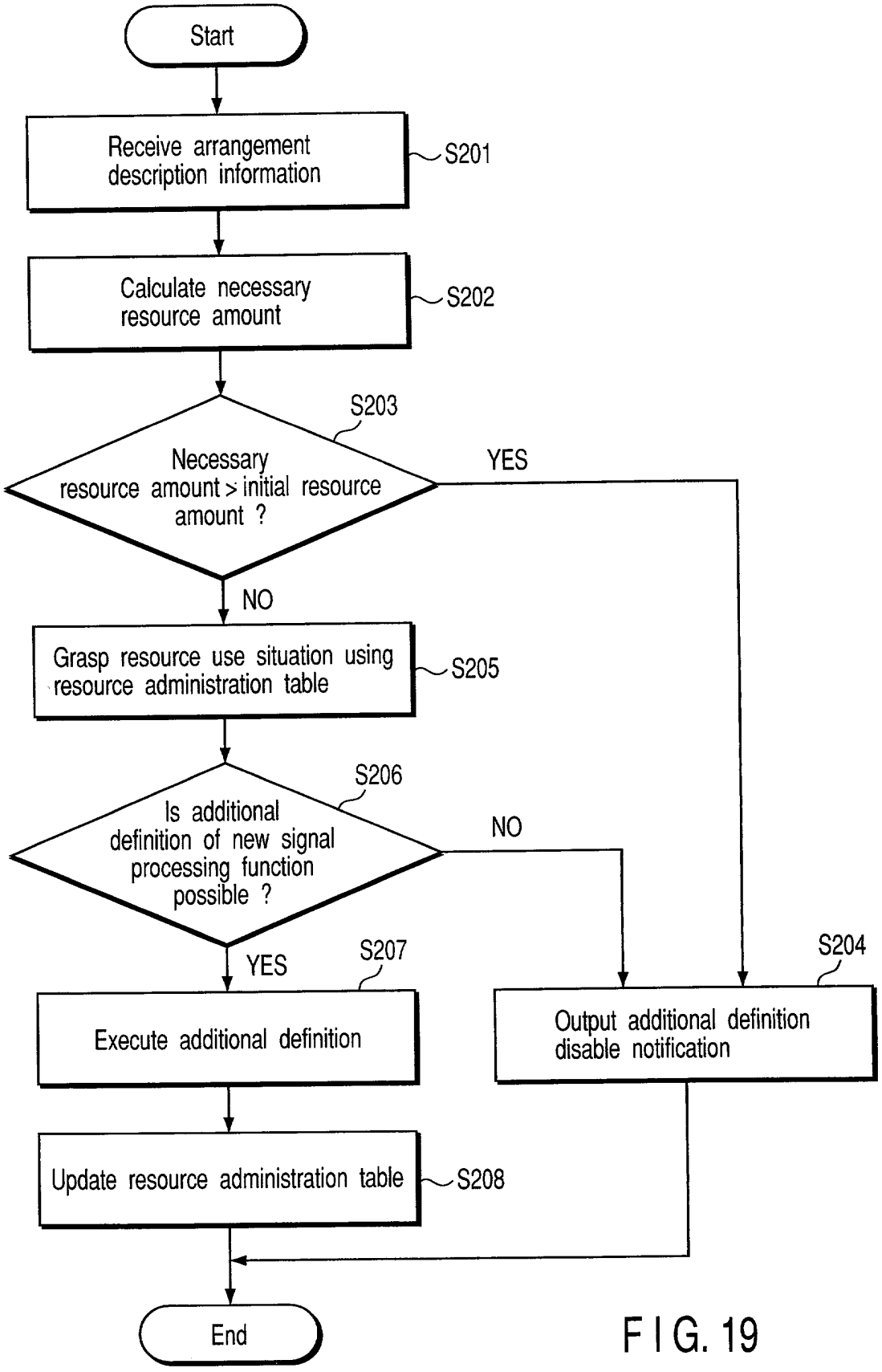
Start
Receive arrangement description information
S201
Calculate necessary resource amount
S202
S203
Necessary resource amount > initial resource amount ?
YES
NO
Grasp resource use situation using resource administration table
S205
S206
Is additional definition of new signal processing function possible ?
NO
YES
S207
S204
Execute additional definition
Output additional definition disable notification
Update resource administration table
S208
End

FIG. 19

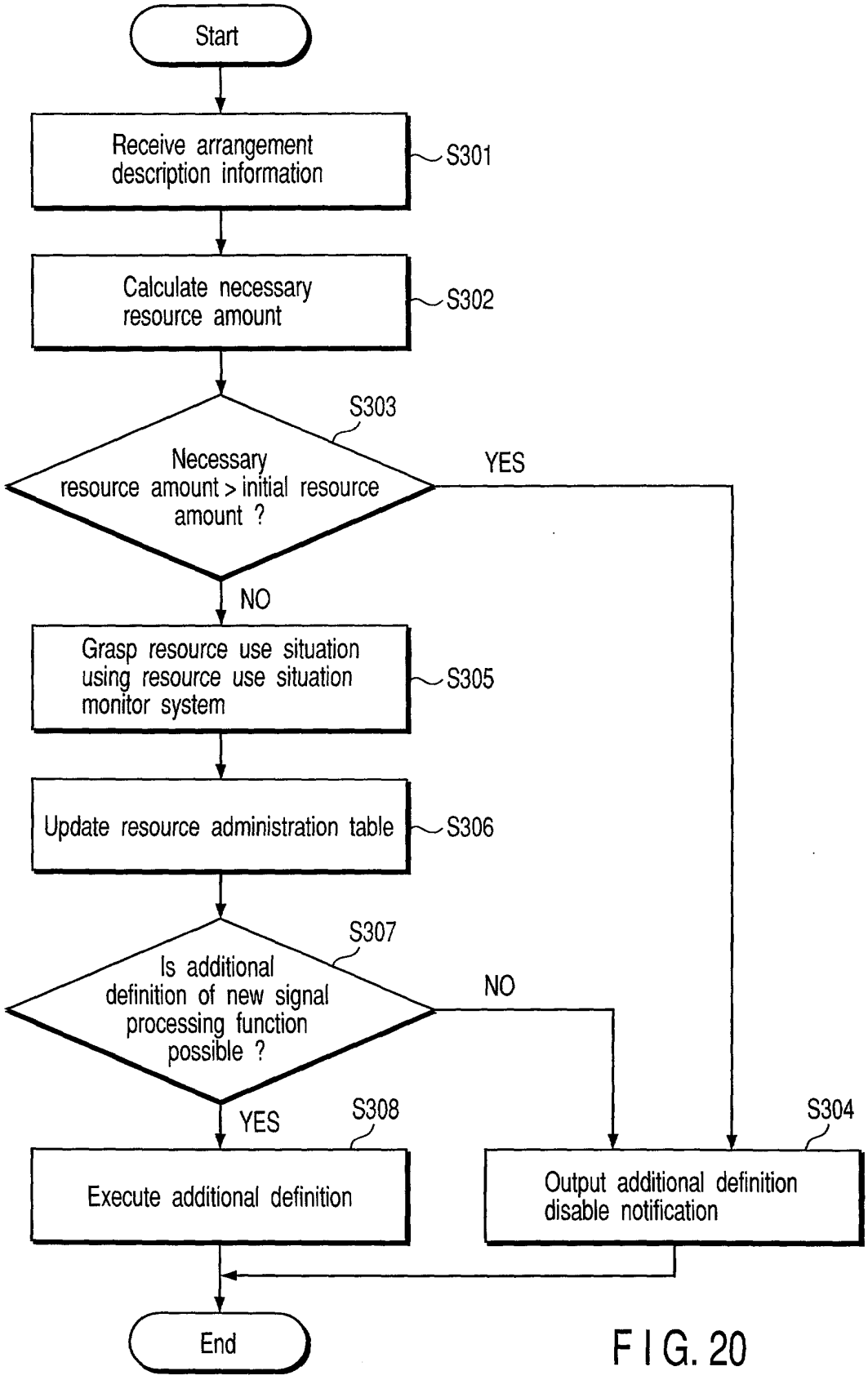
Start
Receive arrangement description information
S301
Calculate necessary resource amount
S302
S303
Necessary resource amount > initial resource amount ?
YES
NO
Grasp resource use situation using resource use situation monitor system
S305
Update resource administration table
S306
S307
Is additional definition of new signal processing function possible ?
NO
YES
S308
S304
Execute additional definition
Output additional definition disable notification
End

FIG. 20

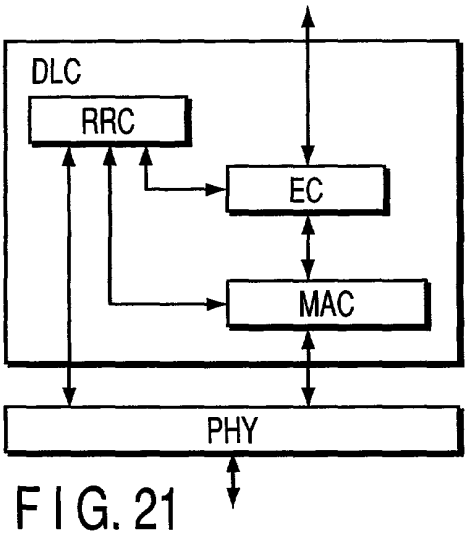

FIG. 21

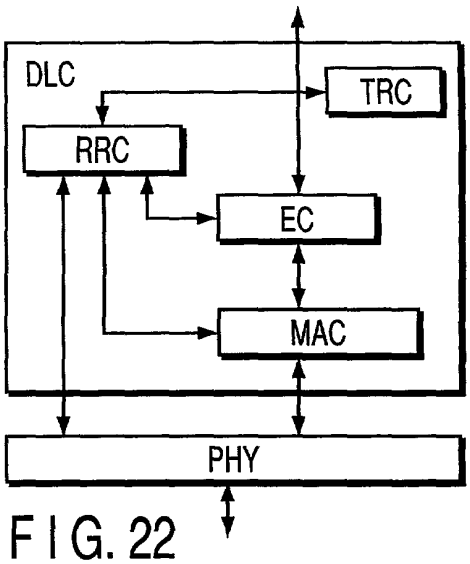

FIG. 22

Machine number	Model ID	Version ID	Resource	Manufacturer
A 327 - 010001 ~ A 327 - 034800	KA 32	7	List 32 - 7	A company
A 327 - 034801 ~ A 327 - 040000	KA 32	8	List 32 - 8	A company
B 01 - 01 ~ B 01 - 020000	KB 01	1	List 01 - 1	B company
B 01 - 20001 ~ B 01 - 040000	KB 01	2	List 01 - 2	B company

FIG. 23

Unredefinable area	Function block name	Resource area A	Resource area B	Remarks
	Cumulative addition	10	2	Set of rate is possible for each area
	Correlator	4	12	
	Viterbi decoder	2	2	
	CRC check	2	4	
Redefinable area	Number of PLD blocks	6200	6200	When areas A and B are at the same time used, number of usable blocks is 5400 + 5400

FIG. 24

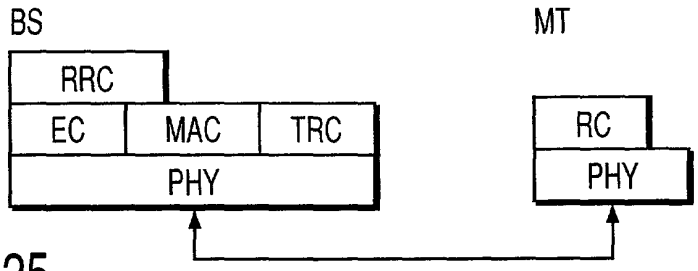

FIG. 25

Message name	MT Residual Resource List Request
Source	TRC (BS)
Address	RRC (BS)
Type of Argument	Request information in unredefinable area
	Request information in redefinable area
	Request information in unredefinable area and redefinable area

FIG. 26

Offset	Contents
0X00	Number of unused CRC attach blocks
0X01	Number of unused CRC check blocks
0X02	Number of unused correlators
0X03	Number of unused accumulators
0X0a	Number of unused PLDs

FIG. 27

Message name	MT Residual Resource List
Source	RRC (BS)
Address	TRC (BS)
Type of Argument	Response to " Request information in unredefinable area "
	Response to " Request information in redefinable area "
	Response to " Request information in unredefinable area and redefinable area "

FIG. 28

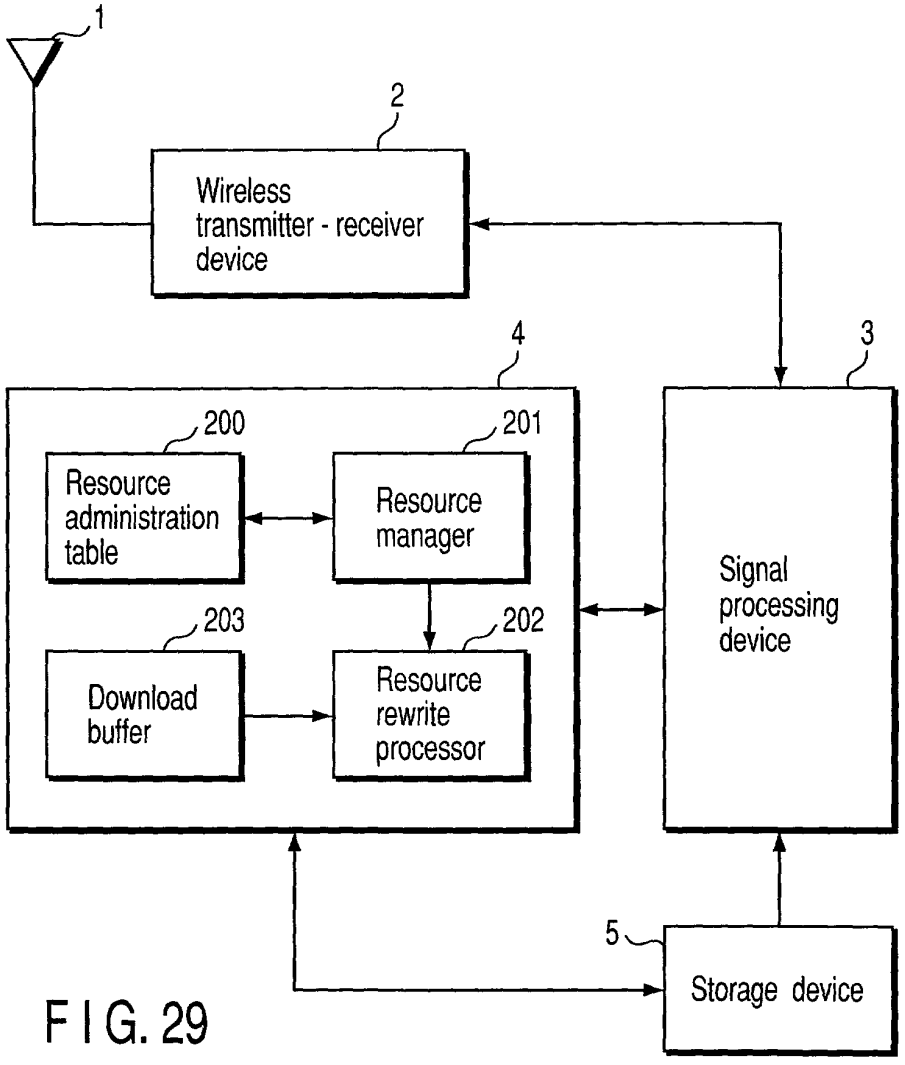

FIG. 29

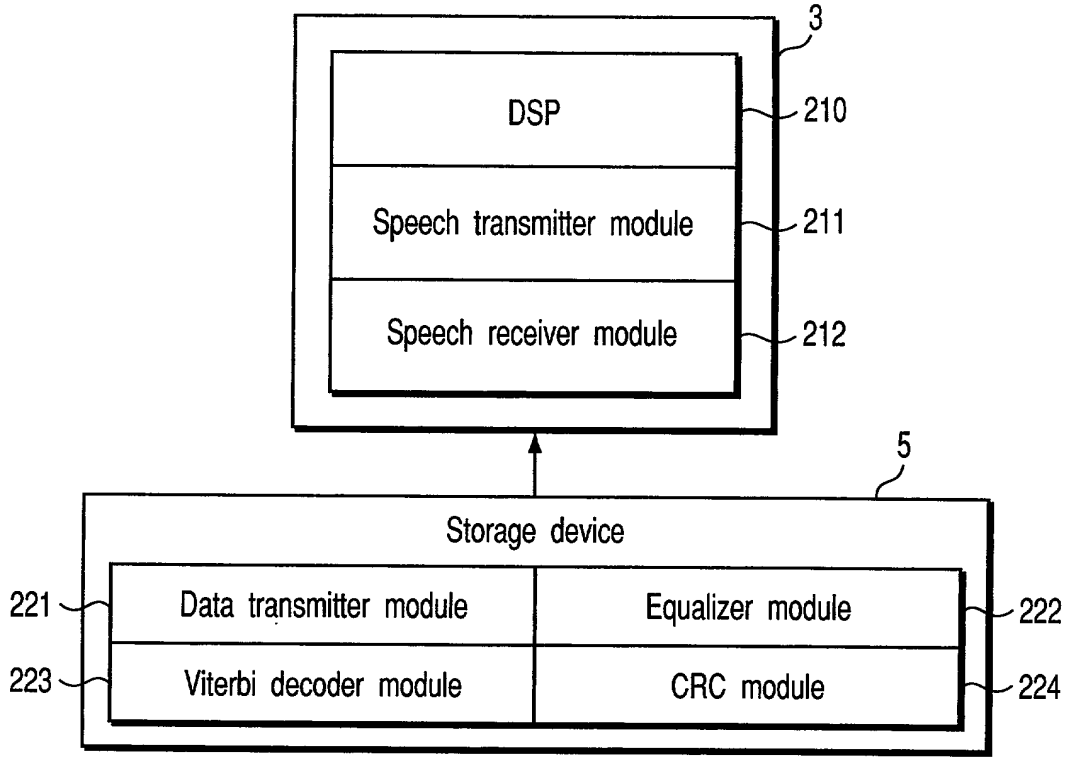
3
DSP
210
Speech transmitter module
211
Speech receiver module
212
5
Storage device
221
Data transmitter module
Equalizer module
222
223
Viterbi decoder module
CRC module
224

FIG. 30

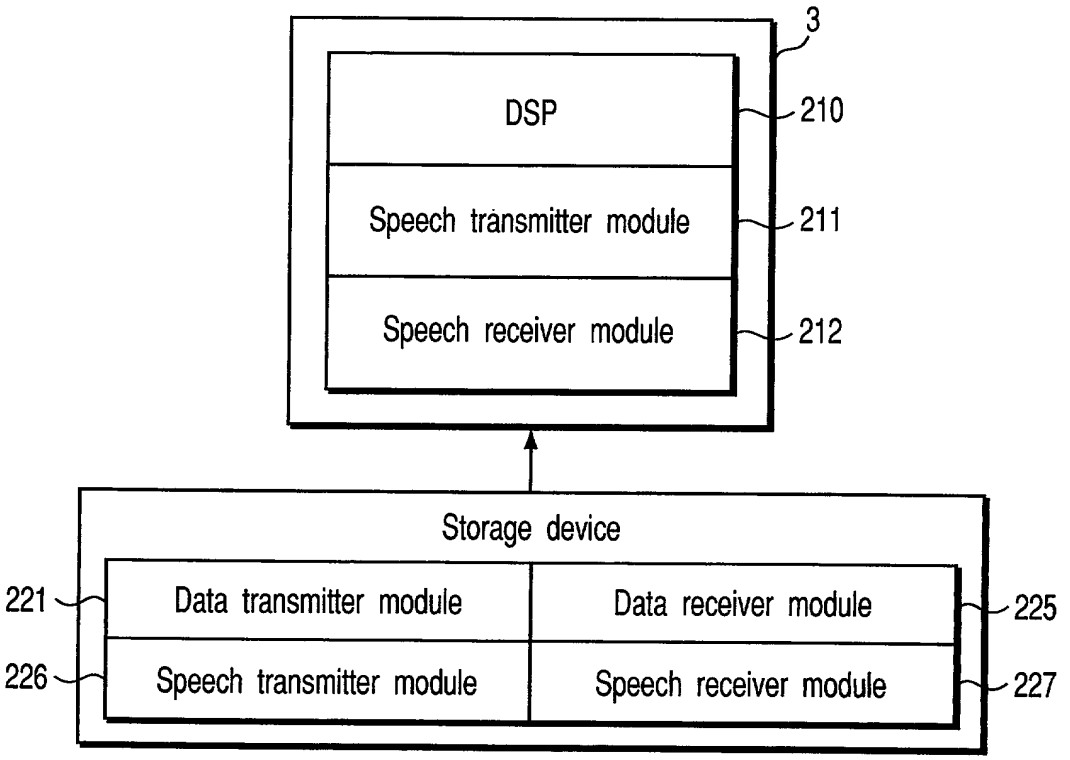
3
DSP
210
Speech transmitter module
211
Speech receiver module
212
Storage device
221
Data transmitter module
Data receiver module
225
226
Speech transmitter module
Speech receiver module
227

FIG. 31

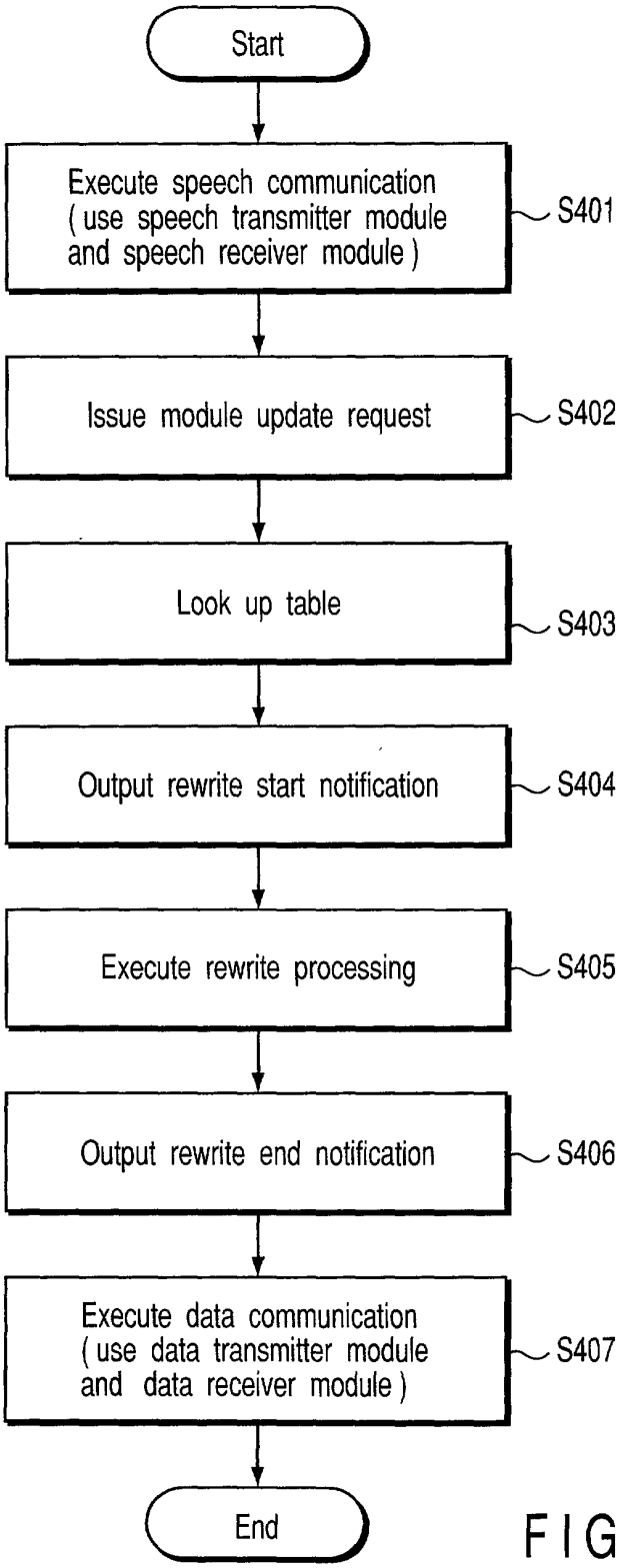
Start
Execute speech communication (use speech transmitter module and speech receiver module)
S401
Issue module update request
S402
Look up table
S403
Output rewrite start notification
S404
Execute rewrite processing
S405
Output rewrite end notification
S406
Execute data communication (use data transmitter module and data receiver module)
S407
End

FIG. 32

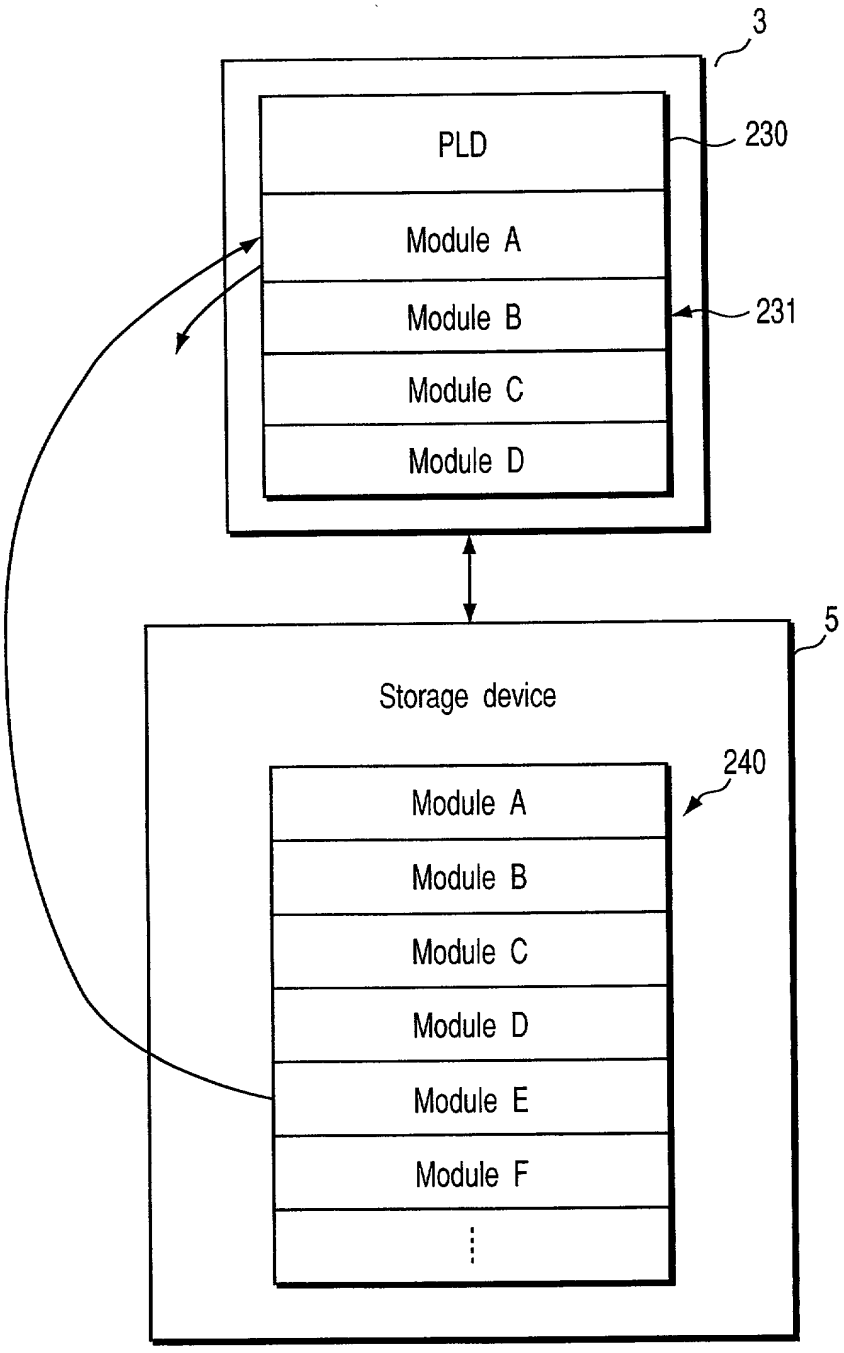
3
PLD
230
Module A
Module B
231
Module C
Module D
5
Storage device
240
Module A
Module B
Module C
Module D
Module E
Module F

FIG. 33

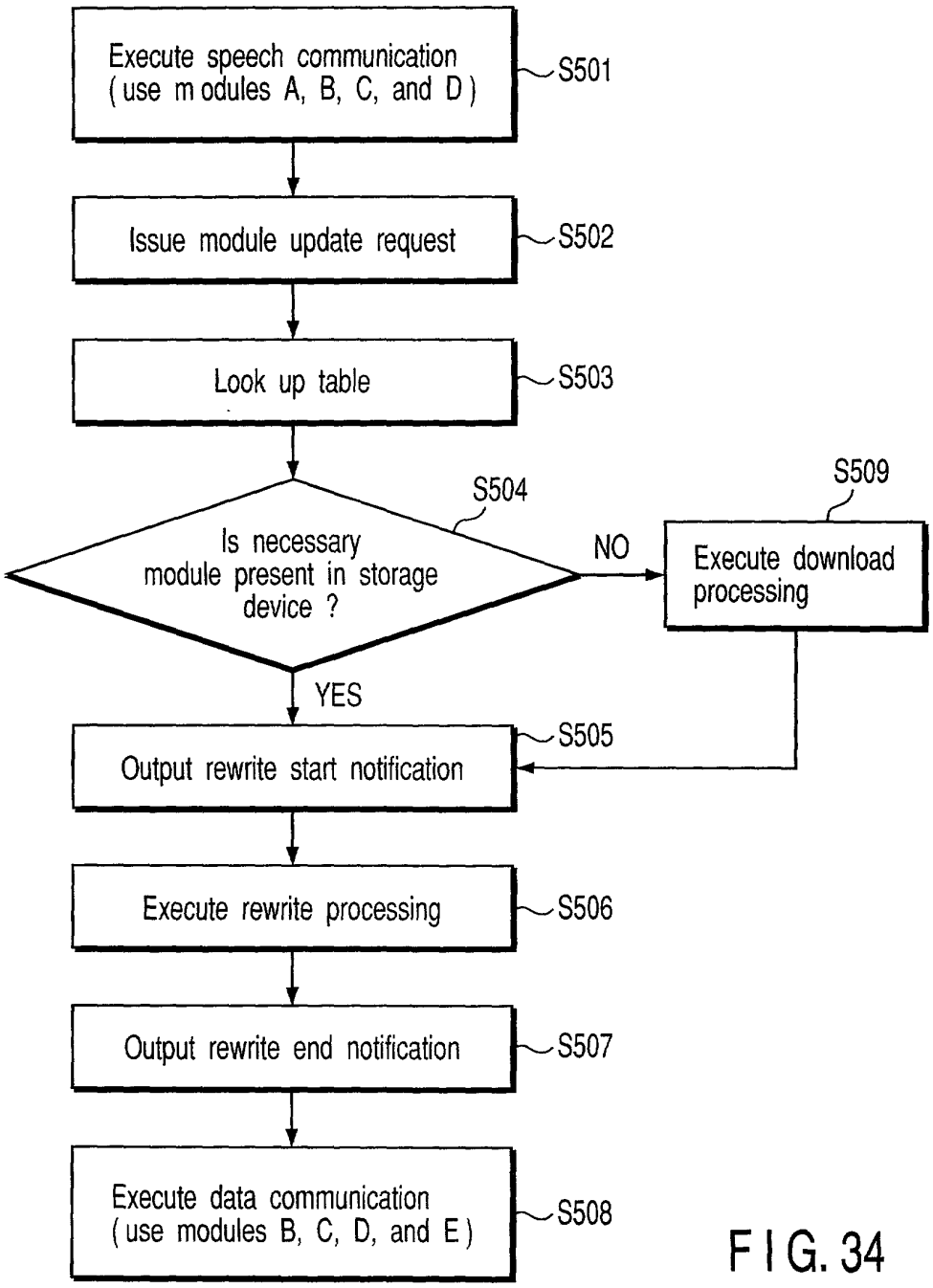
Execute speech communication (use modules A, B, C, and D)
S501
Issue module update request
S502
Look up table
S503
S504
Is necessary module present in storage device ?
NO
S509
Execute download processing
YES
Output rewrite start notification
S505
Execute rewrite processing
S506
Output rewrite end notification
S507
Execute data communication (use modules B, C, D, and E)
S508

FIG. 34

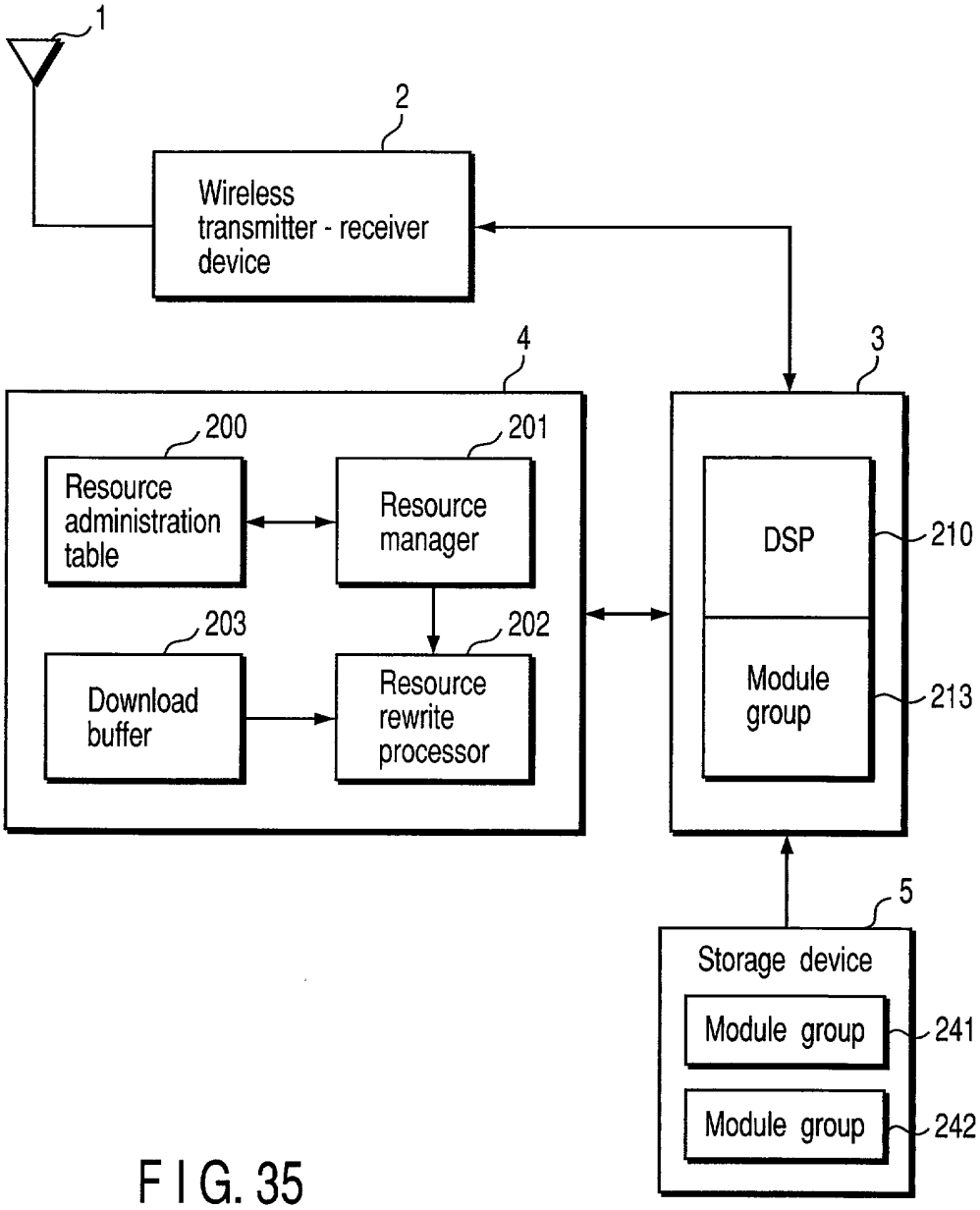
1
2
Wireless transmitter - receiver device
4
3
200
201
Resource administration table
Resource manager
DSP
210
203
202
Download buffer
Resource rewrite processor
Module group
213
5
Storage device
Module group
241
Module group
242

FIG. 35

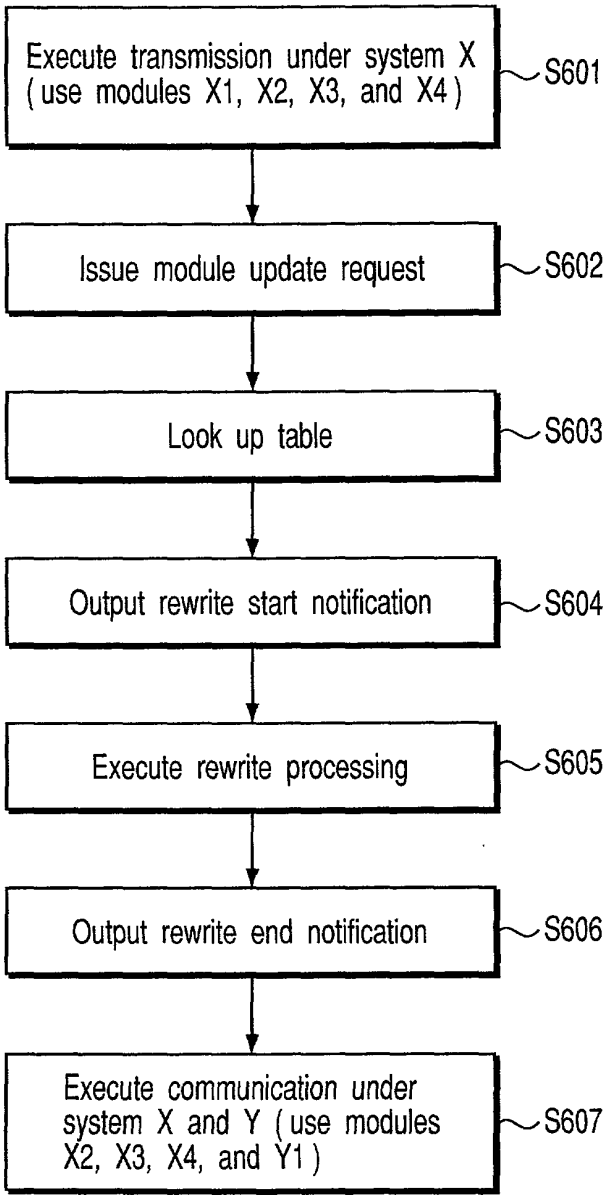
Execute transmission under system X (use modules X1, X2, X3, and X4)
S601
Issue module update request
S602
Look up table
S603
Output rewrite start notification
S604
Execute rewrite processing
S605
Output rewrite end notification
S606
Execute communication under system X and Y (use modules X2, X3, X4, and Y1)
S607

FIG. 36

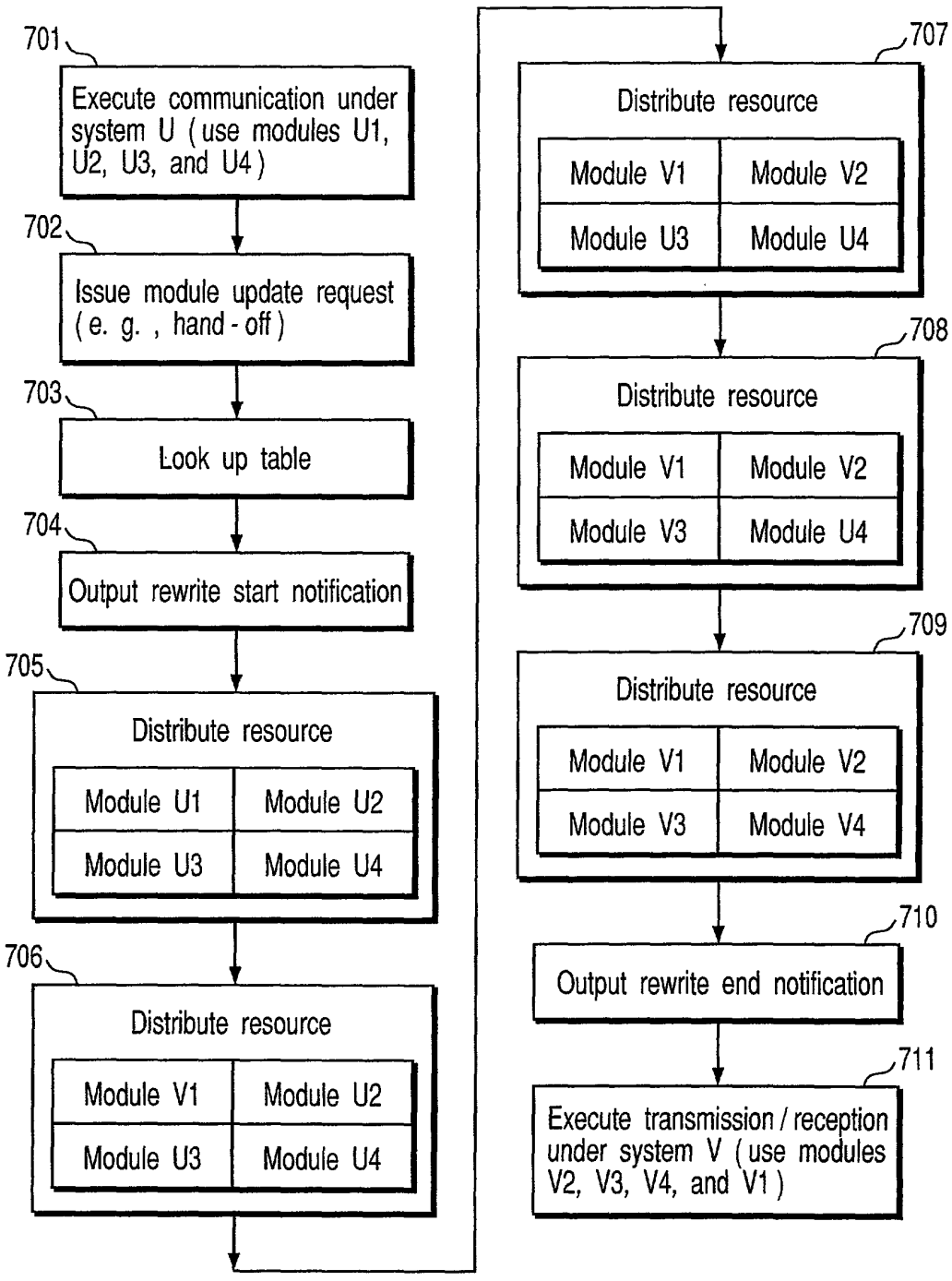
701
Execute communication under system U (use modules U1, U2, U3, and U4)
702
Issue module update request (e. g. , hand - off)
703
Look up table
704
Output rewrite start notification
705
Distribute resource
Module U1
Module U2
Module U3
Module U4
706
Distribute resource
Module V1
Module U2
Module U3
Module U4
707
Distribute resource
Module V1
Module V2
Module U3
Module U4
708
Distribute resource
Module V1
Module V2
Module V3
Module U4
709
Distribute resource
Module V1
Module V2
Module V3
Module V4
710
Output rewrite end notification
711
Execute transmission / reception under system V (use modules V2, V3, V4, and V1)

FIG. 37

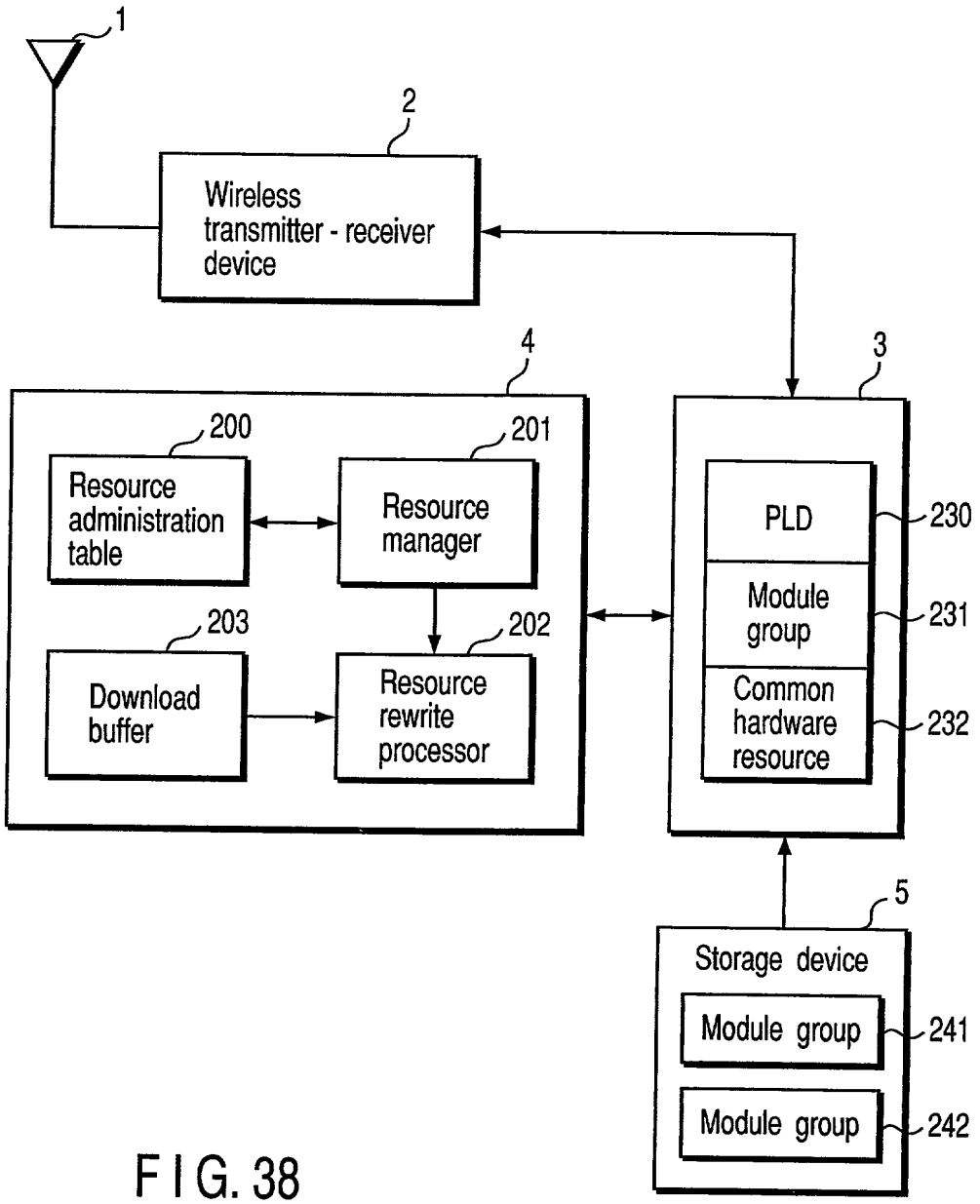
1
2
Wireless transmitter - receiver device
4
3
200
201
Resource administration table
Resource manager
PLD
230
Module group
231
203
202
Download buffer
Resource rewrite processor
Common hardware resource
232
5
Storage device
Module group
241
Module group
242

FIG. 38

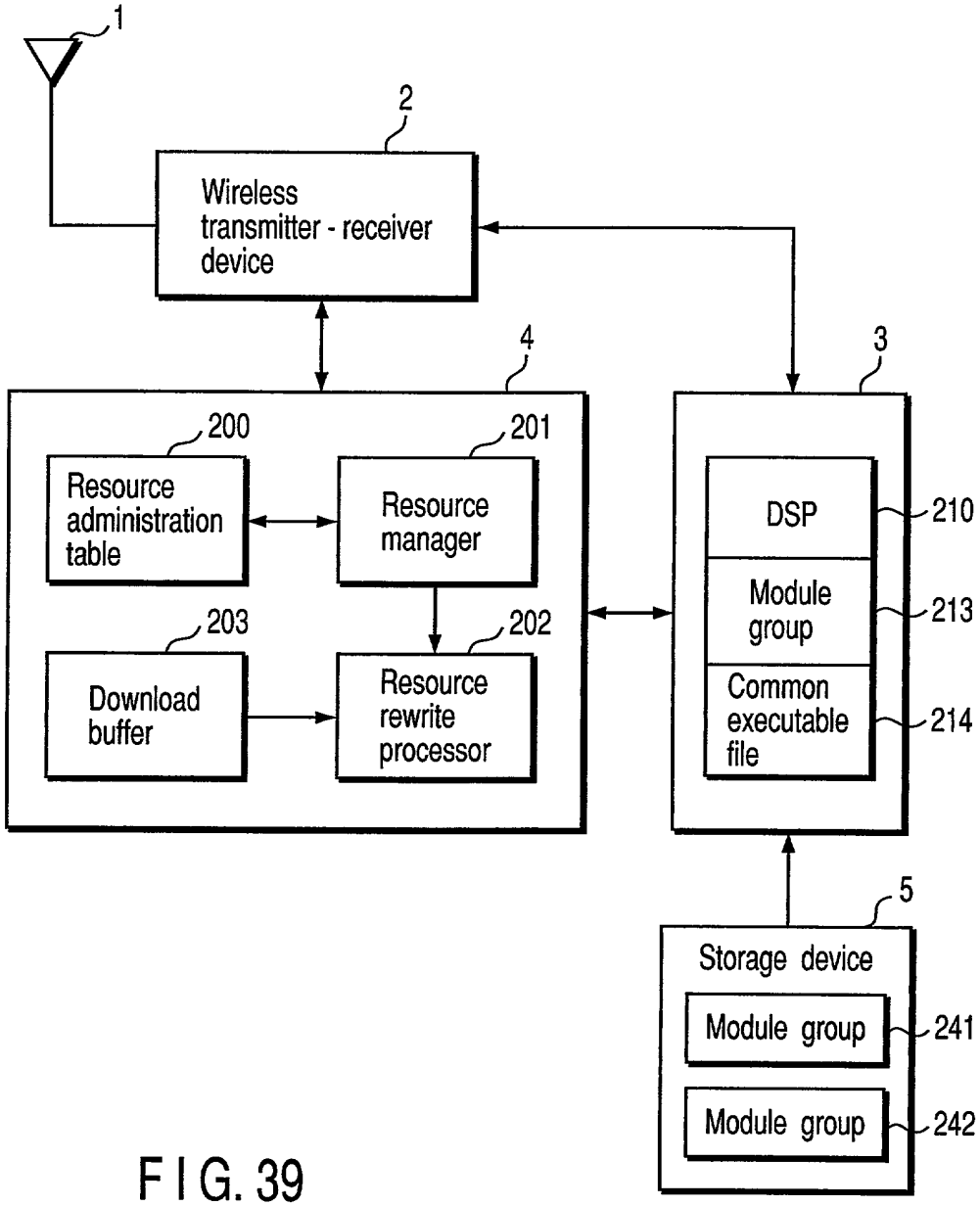
1
2
Wireless transmitter - receiver device
4
3
200
201
Resource administration table
Resource manager
DSP
210
Module group
213
203
202
Download buffer
Resource rewrite processor
Common executable file
214
5
Storage device
Module group
241
Module group
242

FIG. 39

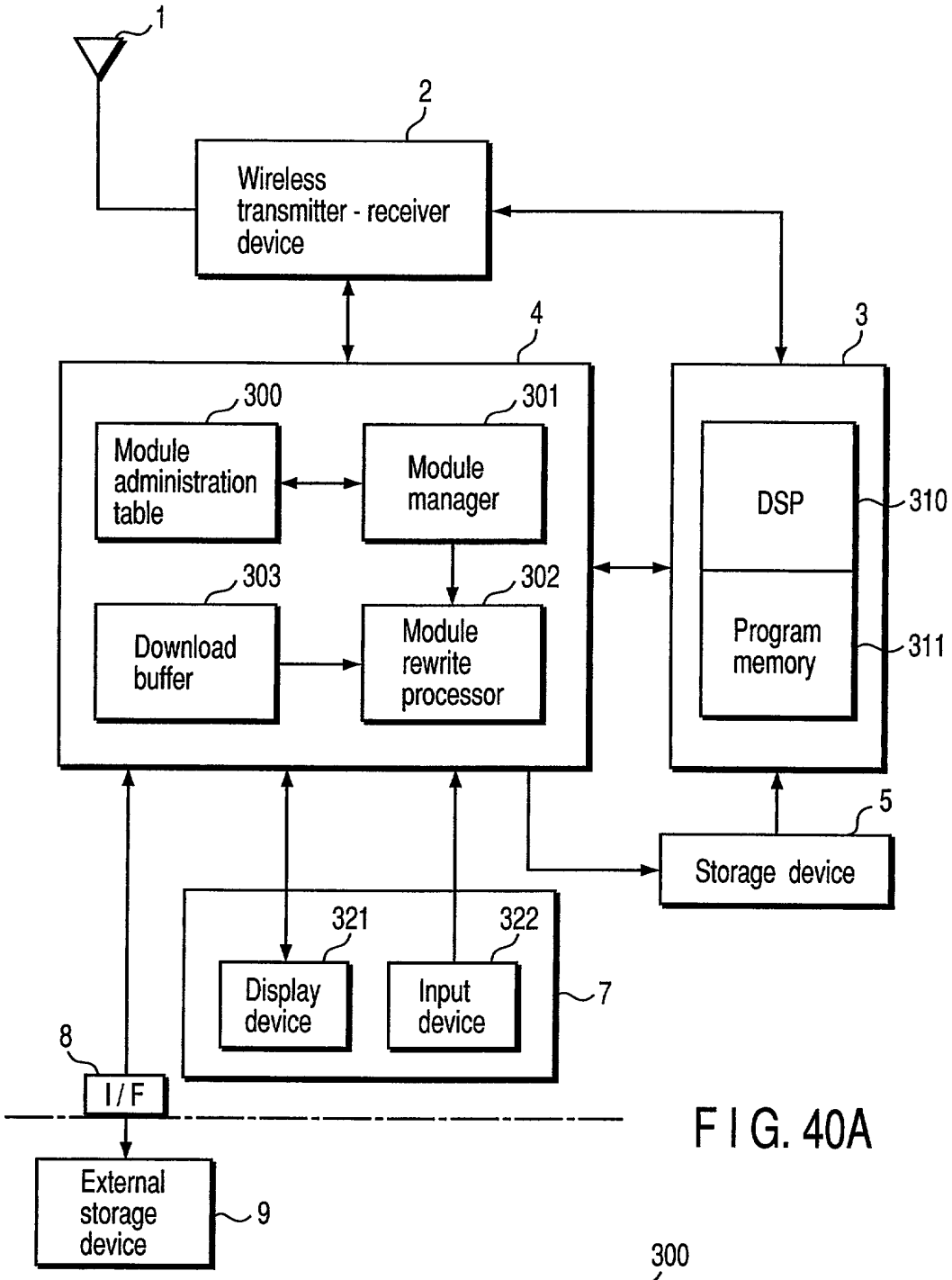

FIG. 40A

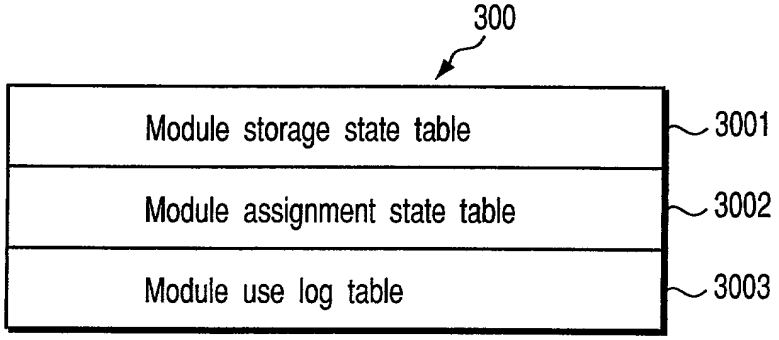

FIG. 40B

Items of module use log table

Module name
Module size
Use frequency
Storage state
Assignment state

FIG. 41A

Example of contents of module use log table

Module name	Module size	Use frequency	Storage state	Assignment state
QPSK modulation	10200Byte	320	0X1000	ON
Correlator	15300Byte	230	0X4000	ON
Convolution coding	12900Byte	202	0X5000	OFF
PN coding	25000Byte	23	0X3000	OFF
Walsh coding	18000Byte	9	NO	OFF

FIG. 41B

Updated module use log table

Module name	Module size	Use frequency	Storage state	Assignment state
QPSK modulation	10200Byte	320	0X1000	ON
Correlator	15300Byte	230	0X4000	ON
Convolution coding	12900Byte	202	0X5000	OFF
PN coding	25000Byte	23	0X3000	OFF

FIG. 41C

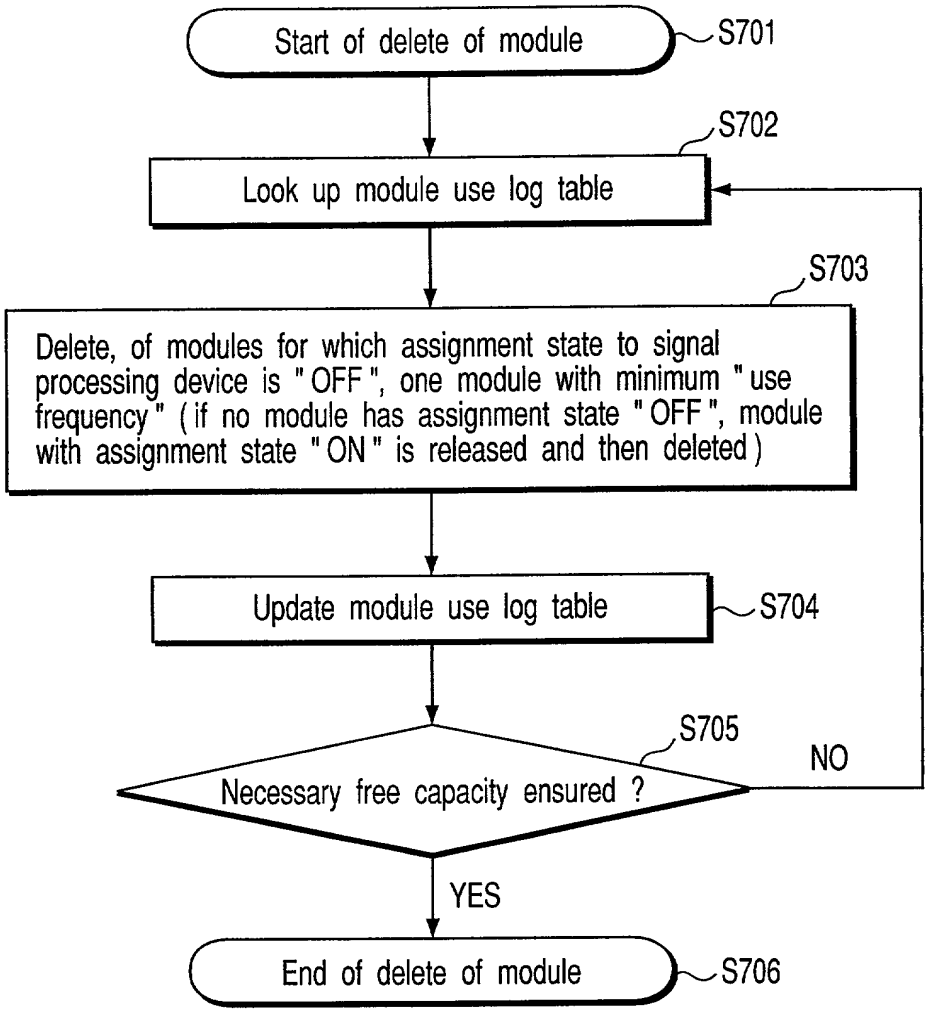
Start of delete of module
S701
S702
Look up module use log table
S703
Delete, of modules for which assignment state to signal processing device is "OFF", one module with minimum "use frequency" (if no module has assignment state "OFF", module with assignment state "ON" is released and then deleted)
Update module use log table
S704
S705
Necessary free capacity ensured ?
NO
YES
End of delete of module
S706

FIG. 42

Items of module use log table

Module name
Module size
Latest use date / time
Storage state
Assignment state

FIG. 43A

Example of contents of module use log table

Module name	Module size	Latest use date / time	Storage state	Assignment state
QPSK modulation	10200Byte	2005 / 04 / 14	0X1000	ON
Correlator	15300Byte	2005 / 12 / 21	0X4000	ON
Convolution coding	12900Byte	2003 / 05 / 04	0X5000	OFF
PN coding	25000Byte	2005 / 02 / 03	0X3000	OFF
Walsh coding	18000Byte	2005 / 08 / 14	NO	OFF

FIG. 43B

Updated module use log table

Module name	Module size	Latest use date / time	Storage state	Assignment state
QPSK modulation	10200Byte	2005 / 04 / 14	0X1000	ON
Correlator	15300Byte	2005 / 12 / 21	0X4000	ON
PN coding	25000Byte	2005 / 02 / 03	0X3000	OFF
Walsh coding				OFF

FIG. 43C

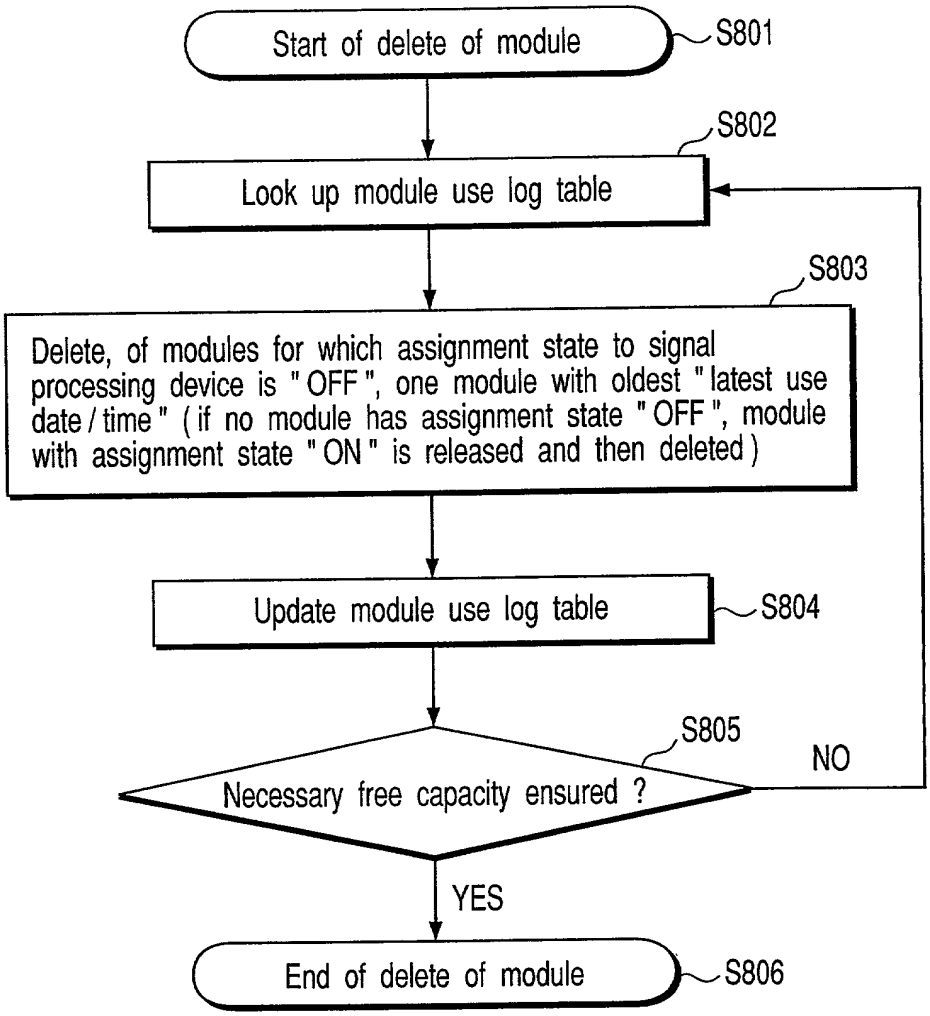
Start of delete of module
S801
S802
Look up module use log table
S803
Delete, of modules for which assignment state to signal processing device is "OFF", one module with oldest "latest use date / time" (if no module has assignment state "OFF", module with assignment state "ON" is released and then deleted)
Update module use log table
S804
S805
Necessary free capacity ensured ?
NO
YES
End of delete of module
S806

FIG. 44

Items of module use log table

Module name
Module size
Storage state
Assignment state

FIG. 45A

Example of contents of module use log table

Module name	Module size	Storage state	Assignment state
QPSK modulation	10200Byte	0X1000	ON
Correlator	15300Byte	0X4000	ON
Convolution coding	12900Byte	0X5000	OFF
PN coding	25000Byte	0X3000	OFF
Walsh coding	18000Byte	NO	OFF

FIG. 45B

Updated module use log table

Module name	Module size	Storage state	Assignment state
QPSK modulation	10200Byte	0X1000	ON
Correlator	15300Byte	0X4000	ON
Convolution coding	12900Byte	0X5000	OFF
Walsh coding	18000Byte	NO	OFF

FIG. 45C

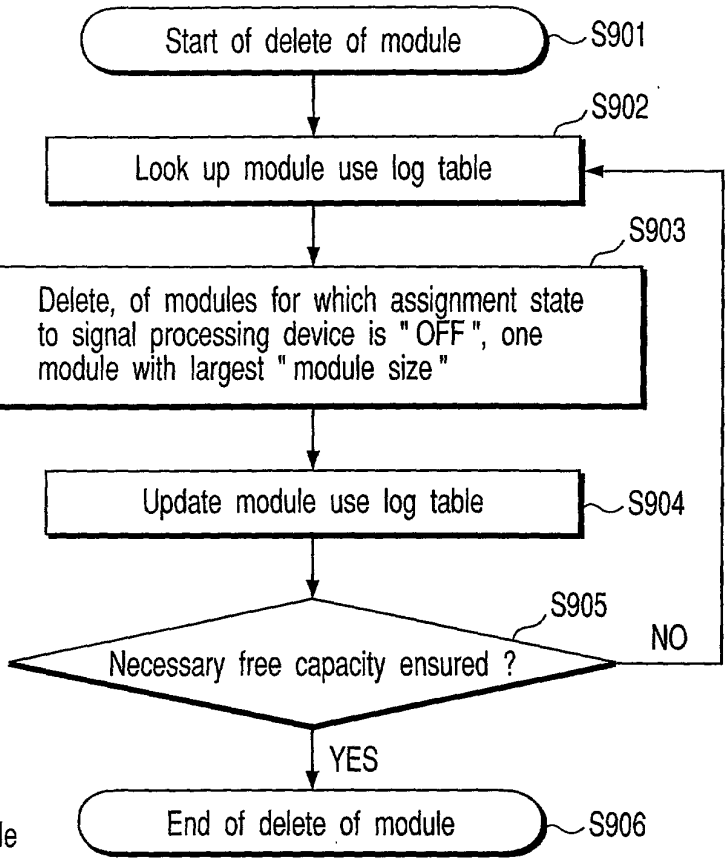

FIG. 46

Items of module use log table

Module name
Module size
Version
Storage state
Assignment state

FIG. 47A

Example of contents of module use log table

Module name	Module size	Version	Storage state	Assignment state
QPSK modulation	10200Byte	2.1	0X1000	ON
Correlator	15300Byte	1.3	0X4000	ON
Convolution coding	12900Byte	3.1	0X5000	OFF
PN coding	25000Byte	2.3	0X3000	OFF
Walsh coding	18000Byte	1.8	0X8000	OFF

FIG. 47B

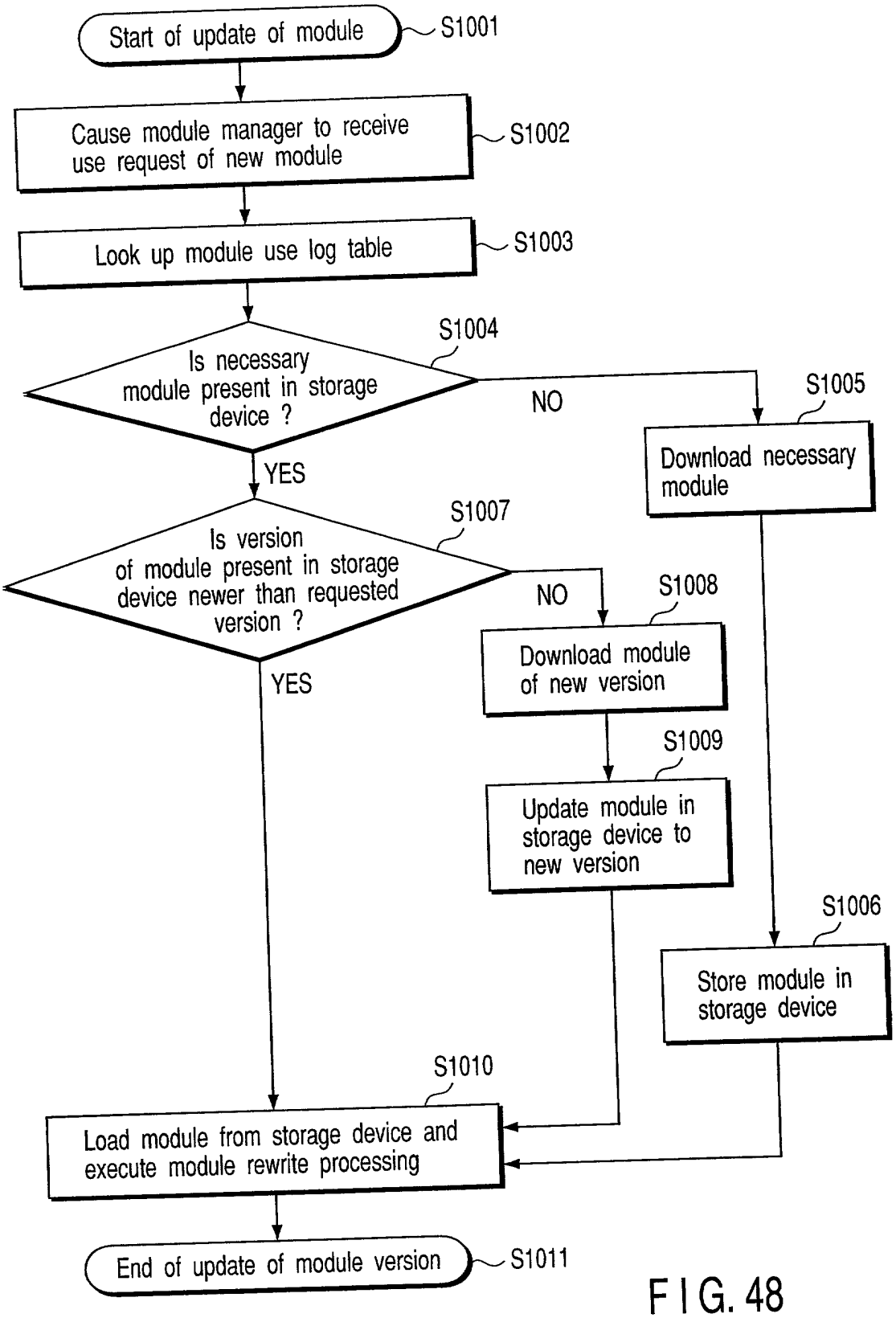
Start of update of module
S1001
Cause module manager to receive use request of new module
S1002
Look up module use log table
S1003
S1004
Is necessary module present in storage device ?
NO
S1005
Download necessary module
YES
S1007
Is version of module present in storage device newer than requested version ?
NO
S1008
Download module of new version
YES
S1009
Update module in storage device to new version
S1006
Store module in storage device
S1010
Load module from storage device and execute module rewrite processing
End of update of module version
S1011

FIG. 48

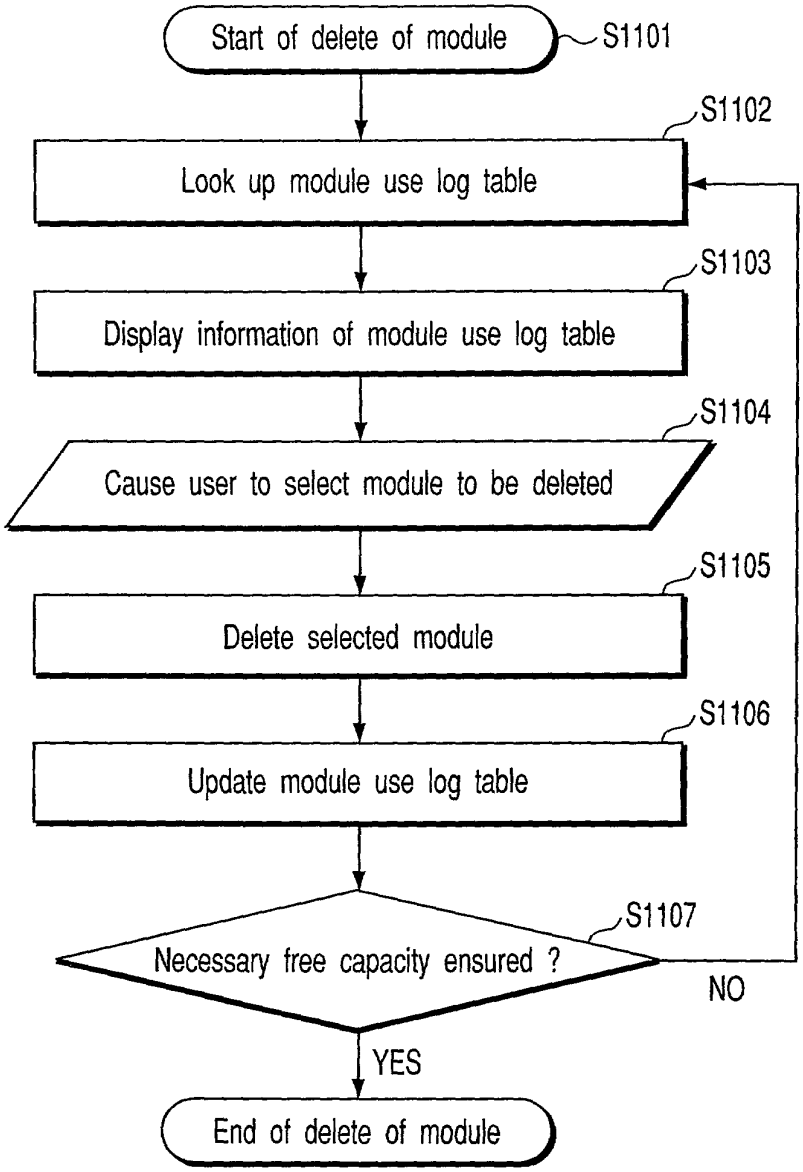
Start of delete of module
S1101
S1102
Look up module use log table
S1103
Display information of module use log table
S1104
Cause user to select module to be deleted
S1105
Delete selected module
S1106
Update module use log table
S1107
Necessary free capacity ensured ?
NO
YES
End of delete of module

FIG. 49

Items of module use log table

Module name
Module size
Storage state
Assignment state

FIG. 50A

Example of contents of module use log table

Module name	Module size	Storage state	Assignment state
QPSK modulation	10200Byte	0X1000	ON
Correlator	15300Byte	0X4000	ON
Convolution coding	12900Byte	0X5000	OFF
PN coding	25000Byte	0X3000	OFF

FIG. 50B

Display example of log information

Currently stored modules			
No.	Module name	Module size	State
1	Internet connection	586400Byte	In use
2	Mail system	74500Byte	In use
3	Moving image reproduction	32900Byte	In use
4	Ringing tone increase	15000Byte	-
5	GSP system	38000Byte	-
Which module do you want to delete ? (input number) →			

FIG. 50C

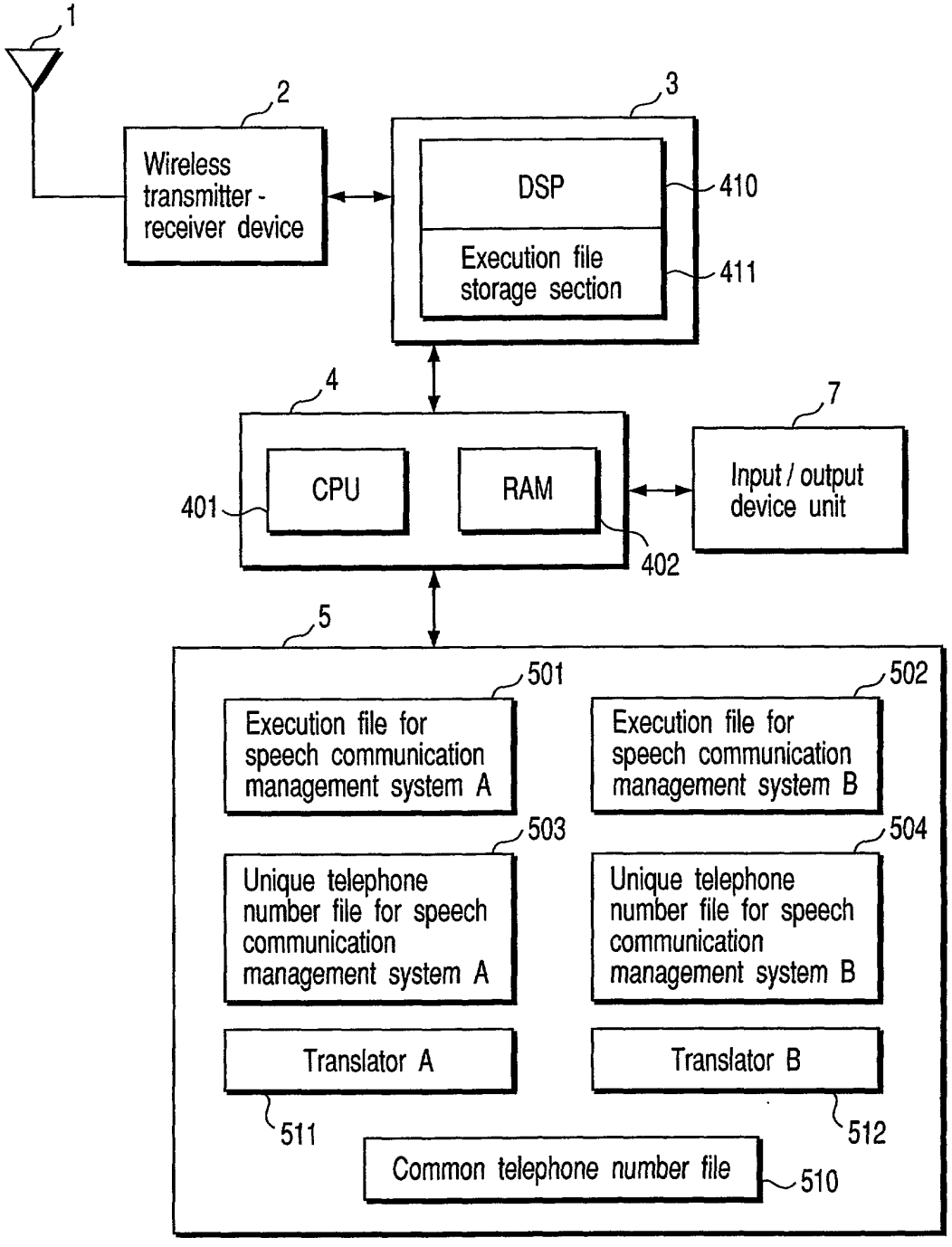
1
2
Wireless transmitter - receiver device
3
DSP
410
Execution file storage section
411
4
CPU
RAM
401
402
7
Input / output device unit
5
501
Execution file for speech communication management system A
502
Execution file for speech communication management system B
503
Unique telephone number file for speech communication management system A
504
Unique telephone number file for speech communication management system B
Translator A
Translator B
511
512
Common telephone number file
510

FIG. 51

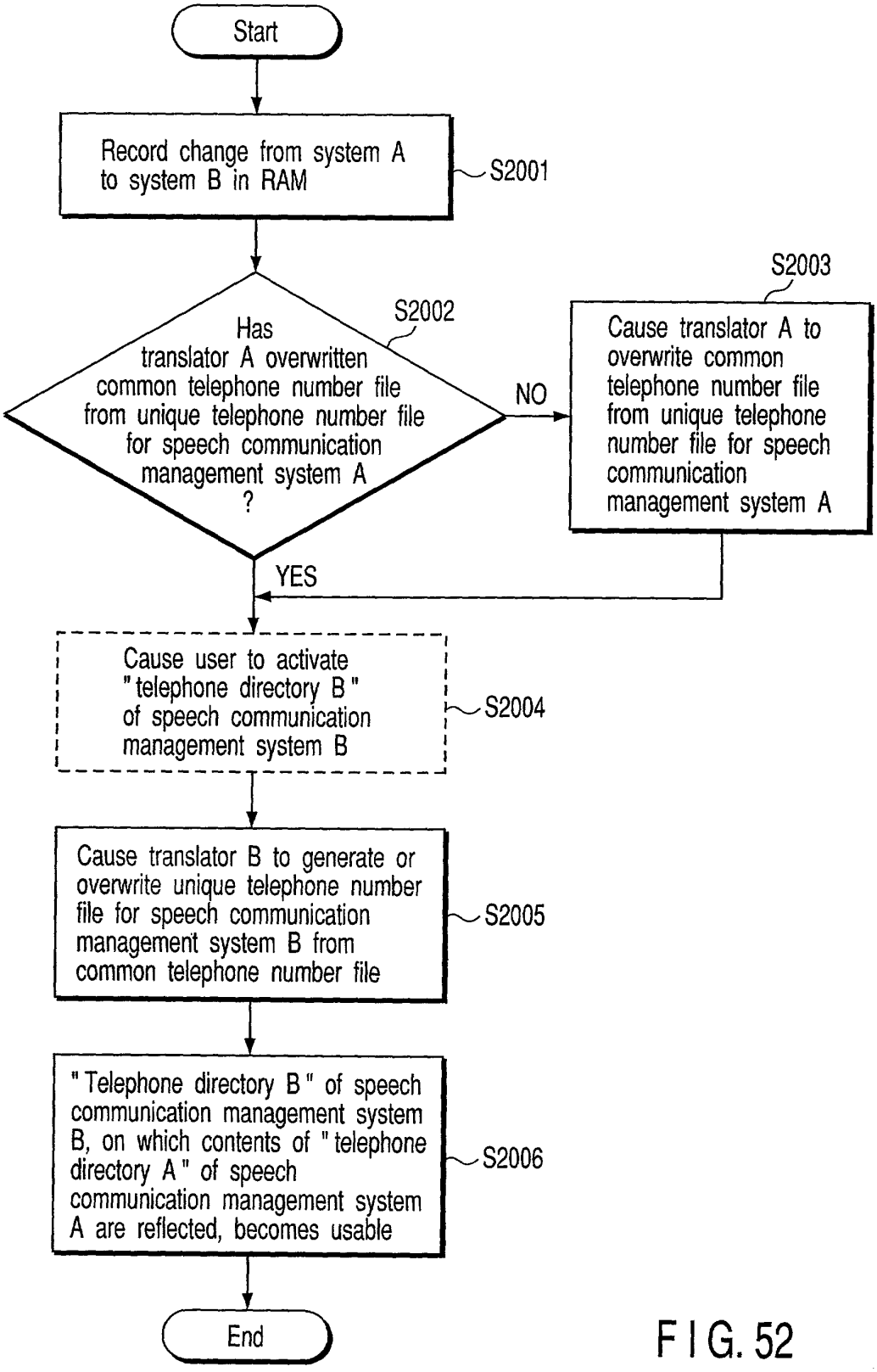
Start
Record change from system A to system B in RAM
S2001
Has translator A overwritten common telephone number file from unique telephone number file for speech communication management system A ?
S2002
NO
S2003
Cause translator A to overwrite common telephone number file from unique telephone number file for speech communication management system A
YES
Cause user to activate "telephone directory B" of speech communication management system B
S2004
Cause translator B to generate or overwrite unique telephone number file for speech communication management system B from common telephone number file
S2005
"Telephone directory B" of speech communication management system B, on which contents of "telephone directory A" of speech communication management system A are reflected, becomes usable
S2006
End

FIG. 52

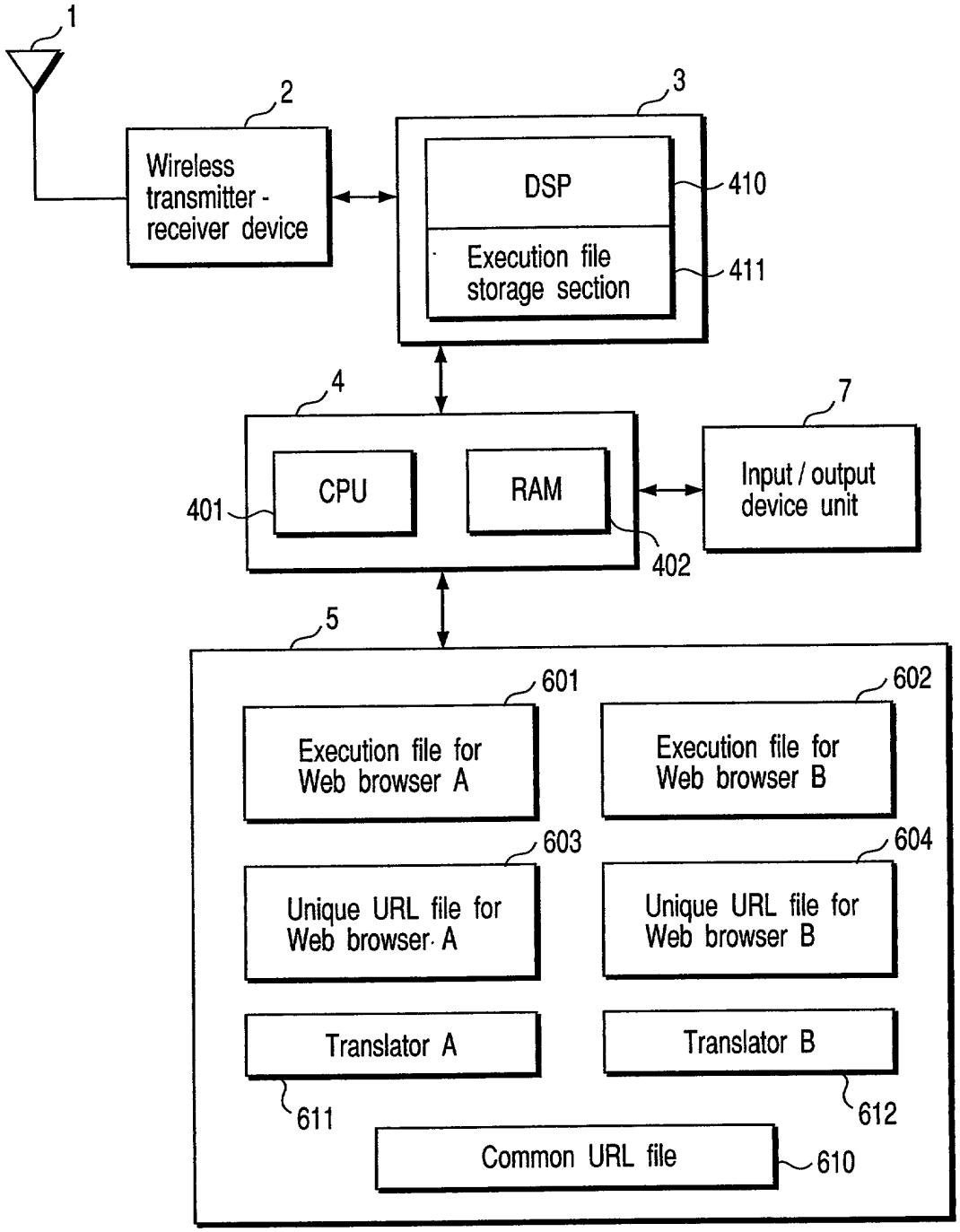
1
2
Wireless transmitter - receiver device
3
DSP
410
Execution file storage section
411
4
CPU
RAM
401
402
7
Input / output device unit
5
601
Execution file for Web browser A
602
Execution file for Web browser B
603
Unique URL file for Web browser A
604
Unique URL file for Web browser B
Translator A
Translator B
611
612
Common URL file
610

FIG. 53

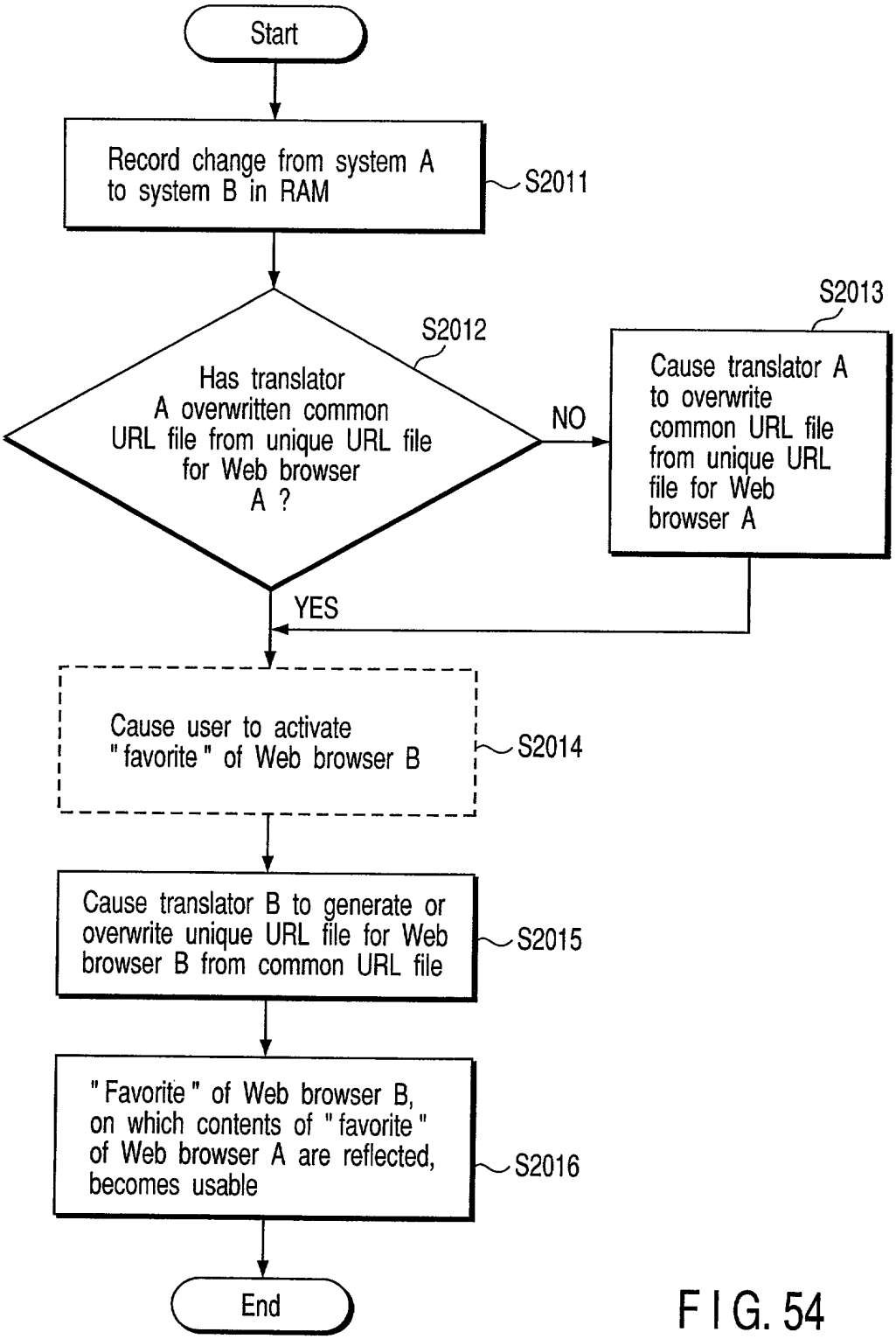
Start
Record change from system A to system B in RAM
S2011
Has translator A overwritten common URL file from unique URL file for Web browser A ?
S2012
NO
Cause translator A to overwrite common URL file from unique URL file for Web browser A
S2013
YES
Cause user to activate "favorite" of Web browser B
S2014
Cause translator B to generate or overwrite unique URL file for Web browser B from common URL file
S2015
"Favorite" of Web browser B, on which contents of "favorite" of Web browser A are reflected, becomes usable
S2016
End

FIG. 54

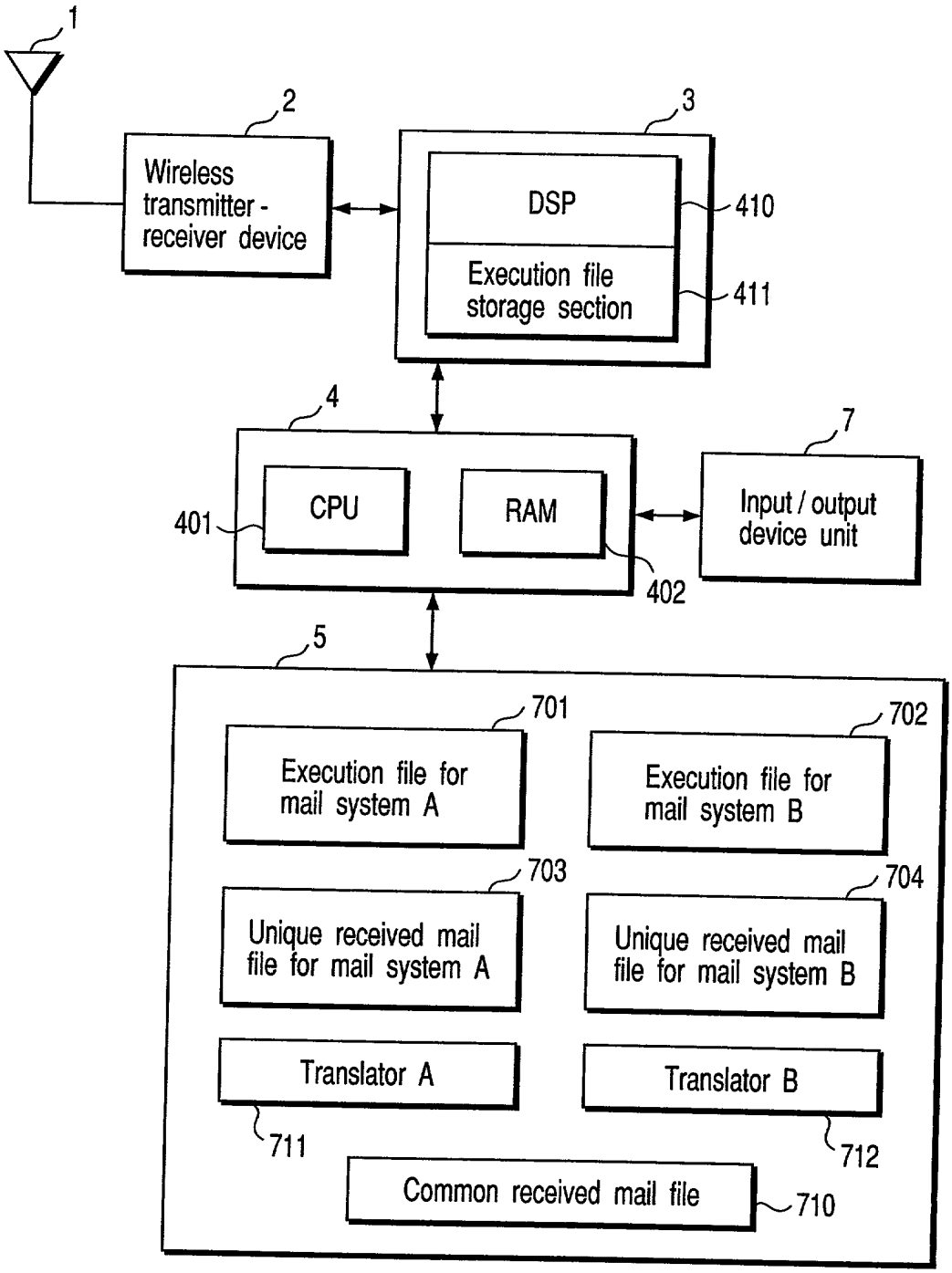
1
2
Wireless transmitter - receiver device
3
DSP
410
Execution file storage section
411
4
401
CPU
RAM
402
7
Input / output device unit
5
701
Execution file for mail system A
702
Execution file for mail system B
703
Unique received mail file for mail system A
704
Unique received mail file for mail system B
Translator A
711
Translator B
712
Common received mail file
710

FIG. 55

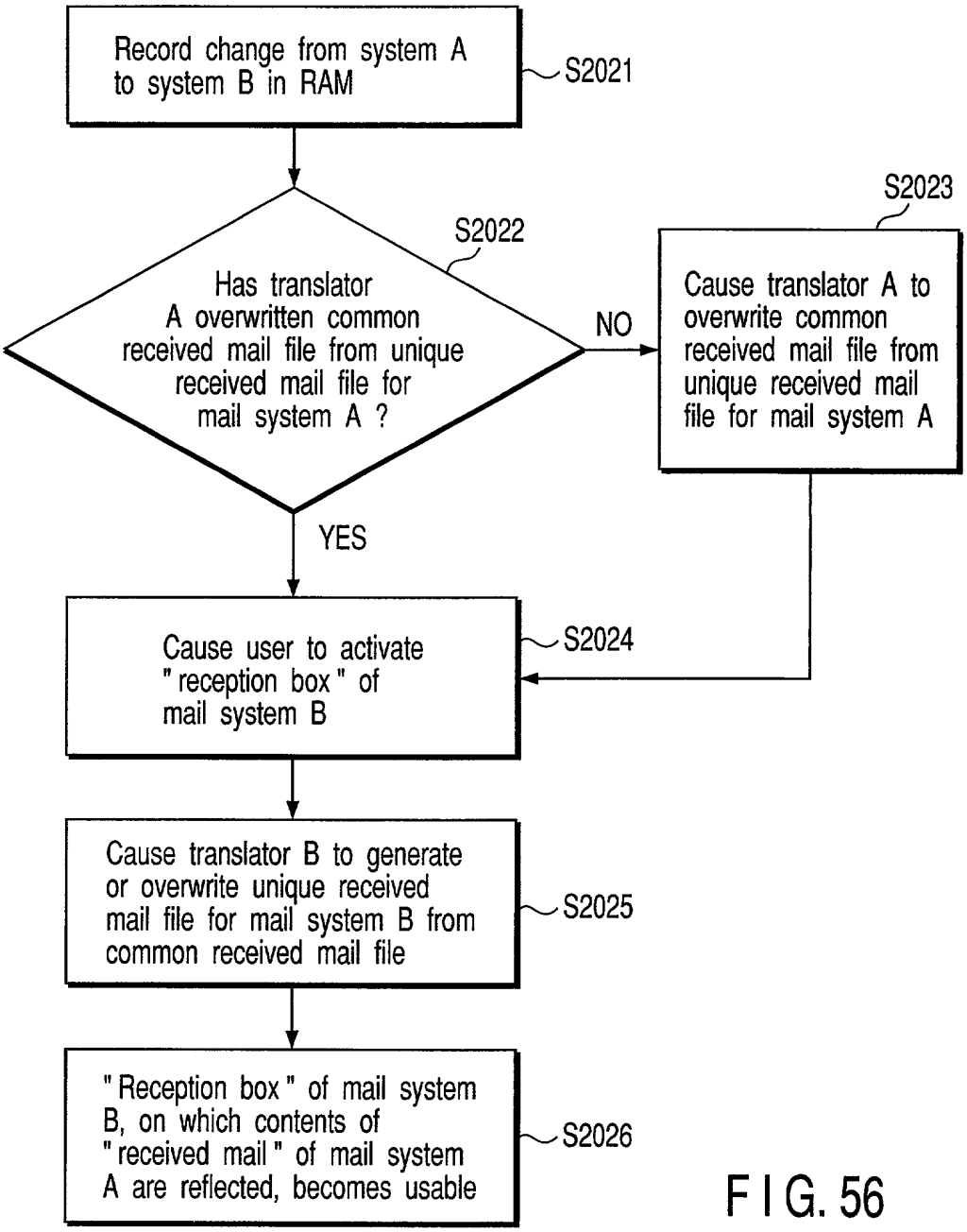
Record change from system A to system B in RAM
S2021
S2022
Has translator A overwritten common received mail file from unique received mail file for mail system A ?
NO
S2023
Cause translator A to overwrite common received mail file from unique received mail file for mail system A
YES
Cause user to activate "reception box" of mail system B
S2024
Cause translator B to generate or overwrite unique received mail file for mail system B from common received mail file
S2025
"Reception box" of mail system B, on which contents of "received mail" of mail system A are reflected, becomes usable
S2026

FIG. 56